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Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax, Mich.

THE EDITOR'S FARM NOTES.

CORN GROUND WHEAT-CLOVER-HOME-MADE ROOT CUTTER.

A "Subscriber," of Livingston Co., in speaking of the practice of sowing corn ground to wheat, asks where to raise oats. As we have been in the habit of sowing our corn ground to wheat, I will give our practice and ideas upon the subject.

Following is our experience with a fifteen-acre field of corn in 1896, which we sowed to wheat after the corn was cut up and placed in twenty-row shocks. The field was fitted with a spring tooth drag, by going three times over, and sowed with a roller drill, at the rate of one and a half bushels per acre. Soil is clay loam, with sandy spots.

We harvested fifteen bushels per acre, which sold at eighty cents per bushel, bringing \$12 per acre.

We do not think the wheat as costly as it would have been to have plowed the ground in the spring, and sowed oats and harvested them. And as we bought oats in the winter of 1896-97 at fifteen cents per bushel, we consider the crop of wheat equivalent to eighty bushels of oats, per acre. In this section forty bushels of oats per acre is considered a good yield.

CLOVER QUERY.

In fertilizing ground with clover I would like to know one or two things. In which of the following ways will the ground be most enriched? By plowing under when in bloom, or by letting the clover ripen and die on the ground?

I would like our experiment stations to take two iron kettles and fill them with soil of the same chemical analysis, sow them to clover, and when in bloom, turn the clover under in one and allow the clover in the other to ripen and die, and then mix with the soil thoroughly. Then analyze and compare results. The experiment might be extended to include a kettle of clover from which the growth had been removed for hay. It seems to me the above would furnish information of great value.

A ROOT CUTTER.

Now, I will tell my brother farmers of my home-made root cutter. I did not feel like going to the expense of buying one, so I made one that does very well.

In the first place, make a box twelve inches square and about thirty inches long, without ends. Set it up on legs at an angle of 45 degrees. Cut off the lower end of the box so that a wide knife, moving up and down will slide over the opening.

My knife is made from a piece of cross-cut saw, ground to an edge, and holes punched in to bolt to the lever. The knife, lever and guard are arranged the same as on a lever feed cutter.

The down stroke slices the roots, and as you lift the knife the guard allows the roots to drop down, and another down stroke cuts off more slices.

Barry Co., Mich.

FRANK BRISTOL.

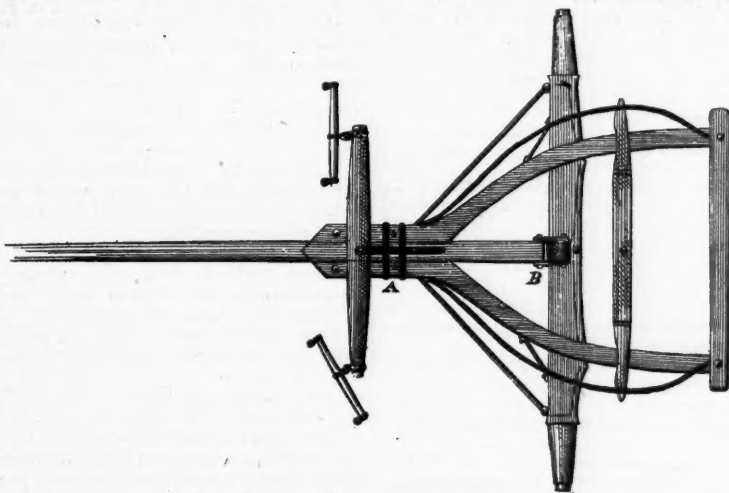
There is no doubt that wheat can be grown very cheaply on corn ground, especially when sown in good season, on a clean, well prepared seed bed.

But, after all, we sometimes fail to get our corn matured in time to sow wheat after corn cutting. We should then prefer sowing the corn ground to oats the following spring. For seeding down to wheat and clover for a meadow, the four-year rotation is preferable as a general thing.

We should advise "Subscriber" to stick to his old plan of growing oats after corn, to be followed with wheat and clover. If he has generally secured good results in growing a good yield of oats, and can plow his corn ground in the fall, he can make little improvement in changing about.

Of course, one can cut up corn ground, in the spring, rather than in the fall, by means of a sharp disc harrow, and prepare a good seed bed, if the surface soil is fairly free from weeds and June grass. On trashy ground we find that oats are usually a failure under such surface soil treatment.

If we had a large farm, and were not making a specialty of dairying, we should prefer a four-year crop rotation as follows, and for the following reasons:



REMOVABLE WAGON TONGUE.

Last season's meadow or pasture would be turned under in the spring. This would previously be manured on poor knolls, and everywhere needed, so far as the manure would go. There would also be the second growth of clover, timothy and whatever vegetable matter, including the crowns and roots of all plants in the surface soil, to be all turned under.

The manure is invariably sure to be of more benefit, if spread early in the fall and winter, rather than just before plowing under in the spring for corn.

After removing the corn crop the next fall, we should endeavor to plow up the corn ground before winter set in, provided the soil, and "lay of the ground" was such as to render this plan feasible and practicable.

For growing the oat crop on this corn ground, we now have the partly decomposed manure and other vegetation turned up and mixed in the surface soil, in preparing the seed bed. This ought to insure a fair yield of

oats, other conditions being equal.

Just as soon as the oats were cut and put in shocks, we should endeavor to commence plowing the oat ground. This plowing again turns under the manure and other vegetation, as when plowing for corn the year previous. In fact the position of the furrows, surface soil and vegetable matter is just the same as when the corn was growing.

Just as soon as possible turn the oat stubble under, following each forenoon and afternoon's plowing with a pole drag, plank drag or roller. This pulverizes the lumps and compacts the furrows.

Our next move would be to lightly and evenly top-dress all, or as much as possible, of this surface soil with whatever available manure we could secure. Here is where the full value of a manure spreader is appreciated.

After top-dressing, our plan has been to work this manure into the soil by means of a disc harrow. No laps are necessary in using this tool for this purpose. In this way we thoroughly mix the manure into about four inches of the surface soil, and can use fresh

did not have too much plowing to do. Unless the season proved too dry, just as good a crop of wheat could be secured on our soil. The clover hay crop would be fed out to stock and a goodly portion would eventually find its way back to the land again in the form of manure.

Regarding the kettle experiment, write to Director Clinton D. Smith, Experiment Station, Agricultural College, Mich., for a bulletin along this line. Several stations have tried experiments of a similar nature.

A REMOVABLE WAGON TONGUE.

We have several queries as to whether the tongue of a farm or lumber wagon could not be made removable. Yes, there are one or two factories, to our knowledge, who furnish such a removable tongue, and we have seen several home-made "affairs."

The cut on this page shows an arrangement of the hounds for admitting a slip tongue. The front ends of the hounds are fastened together by means of a steel plate above and below, well bolted, to secure the necessary rigidity.

The tongue is slipped through between these plates and the ends of the hounds. The rear end is attached direct to the axle by means of a heavy pin and key.

In many respects we like such a slip tongue, as it can be quickly removed when the wagon is left in an open shed with the tongue exposed. The tongue of the ordinary farm wagon is exposed to the elements more or less, even when the wagon gear is not.

Arranged as we have rudely shown in the sketch, it takes but a few seconds to pull out the tongue and shove it back over the running gear or into the wagon box. The evener is not removed, and little time is occupied to remove or replace the tongue into position under any circumstances.

Of course this makes a stiff tongue, to a certain extent. It has very little play, up and down, and there are positions, when the team is manipulating the wagon on the road, wherein a stiff tongue might worry the team for a minute or two.

On the other hand the stiff tongue can be so adjusted, in connection with the holdbacks or neckyoke straps, that there will be very little weight on the horses' necks.

The ordinary wagon tongue, with the regular old-fashioned hounds, can be quickly removed with very little change. Simply enlarge the bolt holes through both tongue and hounds; then drill a hole through the end of the bolt, and use a washer and key instead of a nut.

MANURE CARRIER AND CAR.

I saw in The Farmer your arrangement of putting up a steel track overhead for using a manure car. As I am expecting to build a new stable in the spring, I would like to put in all the conveniences possible.

Isabella Co., Mich.,

N. V. COOMER.

If you build a new stable we should advise arranging so as to drive a horse

Libe Stock.

CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER, Detroit, Mich.

For The Michigan Farmer.

RYE, RYE SMUT, ETC.

In a comment on an article by M. B. J., in a recent Farmer, the editor says: "All smuts should be treated with suspicion."

Not long ago our Agricultural College made exhaustive experiments in feeding corn smut to cows. If I am not mistaken, they fed to pregnant cows, over 25 pounds of dry corn smut per day, (all they would eat), without any ill effect. I have also talked with parties from the West, who were in the habit of turning cattle into their stalk fields and allowing them to eat all they would, and they agree that they never knew any ill results to follow. Where cattle were sick it was invariably the result of eating too much corn, instead of smut. Cattle are inordinately fond of smut, and will eat it if it is to be had. I frequently cut the green smut from my corn and throw it into the pasture lot and have yet to see any sickness or abortion caused by it. With smut rye, I believe the case to be different. That smut rye will cause abortion I do not doubt, but smut can be easily taken out of rye with a good fanning mill, and then if the rye is ground and fed with sour milk, buttermilk, etc., it is a good feed for hogs. Better than boiled rye, with me. I don't think rye at present prices is an economical feed, compared with corn or beans. Cull beans, boiled and fed to hogs will make them gain very fast. I fed sixteen shoats last winter on cull beans. They were weighed into the feed lot, and a strict account kept of what they were fed. Were sold in May and made me some money. Will give facts and figures from my books, if The Farmer thinks it worth while.

At present cull beans are too high to pay to feed. With corn at 32 cents per bushel, shelled and culled beans at 20 cents per bushel, and rye at 45 cents per bushel, I will take the corn every time. Last winter cull beans, of very good quality, sold here for nine cents per bushel, and later at ten cents per bushel. These, when boiled, make cheap feed for hogs and milch cows. Nearly all of my neighbors who patronize the milk factory at Howell, feed boiled cull beans to cows, with profit.

Livingston Co., Mich.

F. L. WRIGHT.

For The Michigan Farmer.

HOGS AND THEIR BEDDING.

I was interested in friend Cowdrey's article in a recent issue on "cheap pork." Not that the farmers want to see cheap pork but that they should learn to raise swine at a nominal price in order to compete with the western swine raisers. Bro. Cowdrey's article was every word to the point and as I am making this branch of farming a little more distinct than the common run of farmers, I was much benefited thereby.

I have always maintained that the greatest deficiency in modern agriculture was not the lack of tools, capital, ambition, or a hundred other things that could be mentioned, but brains. Brains and their proper use are the life of any vocation. When we see or read of any great undertaking or of sudden success in business we usually remark "there were brains back of that." So may we say of the successful swine breeder. It takes brains as well as grains to make a drove of hogs so that the producer may realize a profit above labor and feed. And what is the use of doing a thing unless, under favorable circumstances, we may expect compensation.

Our farm may or may not be good for hogs, but it is good to produce large yields of corn per acre and good clover soil, which goes a good way toward making the first cost of the pork small. Labor must be taken into consideration, and the more convenient our arrangements are the greater our profits will be.

Peas are one of the best feeds for pigs and they do their own harvesting. This is something we have to look after, for the harvesting of a field of corn is no small item, and if we can grow crops that are just as good to produce gain with little or no expense in harvesting, then that is what we should do. But this is not all there is

to the pea crop. They ripen in July, just after June clover, and one can dispose of his early litters two or three months in advance of corn-fed ones.

It is all right to grow large corn crops—it is the farmer's best crop—for there are seasons when stock cannot get anything to eat outside of the reserved supply, whatever that may be, and corn, to my notion, is the king crop.

I wonder how many farmers ever bed down their brood sows with corn fodder? Not very many, I dare say. But it makes a splendid nest—superior to straw when the hogs once get them well broken up. Straw is all right where one has plenty on hand and going to waste and, no doubt, it would be economy to use straw for bedding in such a case and feed the fodder, especially so if short of coarse feed.

I speak of this simply to show how stalks can be used, for on some farms straw is scarce and corn fodder plenty. Clover hay makes a good nest beside furnishing worlds of nourishment to the hogs. There is one trouble in bedding hogs with the clover in the winter time. They will eat it up unless bedded every day or so, depending on the amount used.

One mistake, I think, we farmers as a rule make, is the neglecting to properly bed our hog yards during the winter months. Here we may say is one of the leaks in the swine business.

Men of advanced ideas and practical farmers, too, note the important fact that grain-fed manure is richer in plant food than any other kind; and what is there on the farm, outside of the chickens, that gets as much clear grain as the hogs.

And what is there on the farm that is allowed to run (if not all over the farm) at least in such shape as never to collect enough manure to make any show when drawing to the field.

The best results we ever obtained from any manure was when we kept our hogs shut in a small building during feeding time and bedded down every day the same as our cattle and horses.

Supposing as much straw or corn fodder were used for bedding in the hog yards and nests as is used in the horse and cow barns according to the amount of grain fed. This would put a stop to the leak in the hog industry and make the first cost still less and our profits more satisfactory.

ELIAS F. BROWN.

For The Michigan Farmer.

SUGGESTIONS ON FEEDING CATTLE.

In reply to request of J. W. Carson, in issue of February 5th, for a few pointers on feeding cattle, I send the following: To become a successful feeder, good, comfortable, well ventilated stables would be required. Another important thing is to select the proper kind of animals as there is a great difference in animals as feeders. What is now wanted is a steer of low-down blocky make, of good quality, full of juice, well fattened, with plenty of steak and good sirloin. A good supply of roots is also necessary, as your cattle will eat and thrive better when given a liberal allowance of roots.

In feeding steers we use very little hay, feeding principally with oat straw, corn fodder run through a cutting box with a splitter attachment, and chaff, with from 50 to 60 pounds of roots given in two feeds each day, and from six to eight pounds of chopped oats and corn or peas—about half of each. With the above ration we have no trouble in making our steers gain on an average of two pounds per day.

In feeding we should always study economical methods, in order that we may produce beef at the least possible cost, because wasteful feeding will so increase the cost of production that no market we can reach under the most favorable circumstances can leave a profit to the feeder. Feeding should be done regularly, stables cleaned and well bedded. If they are kept tied in comfortable quarters it is a great help in feeding.

Do not approve of stanchions for cattle. They are among the things of the past with most breeders and feeders. By all means I would recommend to discard the stanchions. Tie with chains or use patent stall, if you keep your cattle tied. If you have a proper place they will even do better if left loose, particularly feeders.

Mr. Carson says his cows are kept in stanchions, with a trench behind them for the droppings, which is cleaned out every two weeks. His trench must be a large one, or the cows would be standing in a very filthy and

uncomfortable position by the end of the second week. And, besides, I consider it a very untidy way to keep a stable, particularly where cows are kept. Would not like to have to attend to the milking in a stable kept in that way.

JOHN MARSHALL.

Tuscola County, Mich.

(Mr. Marshall's suggestions as to cattle kept housed are good. So are the rations he feeds. But it is not necessary to have a costly barn to make a success in feeding cattle. A deep shed open in front, with mangers at back, well bedded, and an open yard to run in, makes the work of caring for a bunch of cattle much less. It requires a little more feed to make the same gain, it is true, but the open air and exercise are excellent appetizers and keep the animals feeling well all the time.)

In the southern counties, where open air feeding is mostly followed, the corn crop is used much more extensively than suggested by Mr. Marshall. Reinforced with a little clover hay, it is about all that is fed by many farmers. The corn is left standing in the shock till required, and fed without husking or cutting. It is surprising how well cattle do upon this style of feeding, and the amount of hard work that is saved in caring for a bunch of cattle. We believe it is good policy to dehorn cattle before beginning feeding. Dehorned steers, other things being equal, will sell 5 to 10c per hundred more in the Chicago market than those with horns. Besides this, they are much quieter and more easily handled in the feed yard or barn.—Ed. Farmer.)

STOCK NOTES.

There is a large and growing demand for young Shorthorn bulls in this State. It is evident Michigan farmers are going to pay more attention to beef production than for some years. A couple of crosses of good Shorthorn bulls will have a most beneficial influence upon the quality of the beef cattle of the State.

The Chicago Inter-Ocean publishes the following: "The Farnworth Hog.—In response to a request for a description of the Farnworth hog, we give that sent out by Prof. Thomas Shaw, who is something of an authority on the subject." Here is a new breed of hogs sprung on the country without a word of warning. The description given of it is precisely the same as the one given by Prof. Shaw of the Tamworth. Perhaps the "Farnworth" was evolved from the Tamworth by the Inter-Ocean's "agricultural editor."

The Birmingham (England) Mercury of recent date said: "The American producers are cute, and seeing that the taste for frozen meat is dying out in this country, they are now sending over large numbers of bullocks and sheep alive. At present there are hanging in Smithfield market sides of beef and carcasses of sheep, the quality of which is said to equal if not surpass that of the English fed animal. Lamb at Christmas may sound out of place, but visitors to the market can see carcasses of lambs, the age of which is only 9 months, and they are in excellent condition. The following figures give an idea of the meat supply from the United States: During the week ending December 11, there were landed at Birkenhead, 6,409 live beasts known in trade as 'Best States,' and the week ending December 18, 6,856. At London the numbers were for each week, respectively, 4,876 and 5,428. These were slaughtered at the port of debarkation, and it is interesting to know that 800 sides a week, representing 400 beasts, were consigned to Birmingham. Although the meat is claimed to be as good as that of the English-bred beast, the prices are considerably lower."

How to Cure Scab.

Dr. M. E. Knowles, State Veterinarian of Montana, gives some valuable information in the annual report of Montana's Board of Sheep Commissioners. He says: "The successful treatment of scab depends upon the remedy used and the thoroughness with which it is applied. It is, I believe, a conceded fact that the best method is to always, whether in winter or summer, have the dip as hot as the sheep can bear it. In my opinion the reliable tobacco dips are the safest and most economical of all, and as nicotine is the principle in tobacco that is fatal to the scab mite, the most economical and safest dip to buy is the one containing the highest percentage of nicotine. It would be well for the sheep owner to purchase nicotine in as pure a form as possible so that he may avoid paying the excessive freight. "Tobacco Dip" is also probably the safest and cheapest to be used in dipping for ticks on sheep. In speaking of this matter recently to Sheep Commissioner Davis Higler, of Fergus, who has had a large experience in dipping sheep for tick, he very highly praises Scabicura, which is simply a nicotine dip. He says that by using one bottle to a hundred gallons of water all the ticks are effectually killed by one dipping."

Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and synopsis of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Barren Heifer.—Have taken my heifer to four or five different bulls and she is not in calf. She will be two years old in March. J. H. Saline, Mich.—Your heifer is barren. Make beef of her.

Worms in Sheep.—Two lambs in a flock of fifty that I am fattening are not doing well. When I put them up last fall they were in good health. They soon failed on dry feed. C. M. P., Elva, Mich.—Give ground gentian in feed. Change feed.

Ringbone.—Five-year-old horse has a small ringbone. A. R. Brighton, Mich.—Blister with caustic balsam once every two weeks and give rest while you are treating him. The ringbone will grow smaller as the animal grows older, provided it has been killed.

Tuberculosis.—What are the symptoms of tuberculosis in cattle, and what are the State laws respecting its control? E. T. Cadmus, Mich.—If you suspect tuberculosis in your cattle, have your veterinarian make a tuberculin test, or write the State veterinarian and he will do so.

Lumpjaw.—Three-year-old cow developed small lump on right jaw several months ago. Grew larger until about the size of a man's fist, then drew to a head. We lanced it. Do you think it lumpjaw? Cow seems to be perfectly healthy. Would her meat be fit for use? E. W. Findlay, Mich.—If sore on jaw is healed, her meat would be fit for use.

Megrimis.—Brood sow picks her hind feet up high in going up to feed trough and then begins to back up and sit down on her haunches. D. Vernon, Mich.—Your sow suffers from megrimis. Give her enough epsom salts in feed to purge her. She should have more exercise and less feed for a week. Keep her bowels open and acting freely.

Sheep Have Lice.—Our sheep have been running down for some time and on close examination we find that they are covered with lice. Insects are about one-half larger than hen lice. G. B. Union City, Mich.—Apply kerosene twice a week. The wool should be parted and kerosene applied to skin about head, neck, shoulders and back. Do not use large quantities but apply it carefully.

Nail Puncture in Foot.—Four-year-old horse went lame. Found hole in frog of foot. I fear he is cock-an-kled. Have used liniments on him but he is no better. Have also used lard and turpentine. F. S. Freeport, Mich.—When a horse has nail in foot he knuckles over. Soon as foot gets well his fetlock will appear all right. Cut frog away from nail hole and apply one part carbolic acid to twenty parts water three times a day. Saturate sponge with above lotion and apply to bottom of foot in order to prevent dirt and filth getting into wound.

Paralysis—Knuckling.—1. My hens get lame in one leg and soon lose the use of both. I feed corn and oats. Have been feeding rye and corn meal in the morning. They are in a new house lined with tarred paper. Floor is sawdust from last winter's icehouse. 2. Is there any cure for a horse that breaks over on hind ankle when traveling. C. L. C., Pompei, Mich.—1. Clean your chicken house of all dirt and filth. Whitewash walls and sprinkle some lime and ashes on floor. Use straw for bedding. Give them a little powdered colchicum in feed. Feed no rye. 2. Blister horse with caustic balsam once every two weeks.

Rich red blood is the foundation of health. Hood's Sarsaparilla makes rich red blood.

ILLINOIS ECHO.—Mr. J. K. P. Fleming, Prominent Horseman of Freeport, remarks: "I have used Quinn's Ointment in my stable. It does all you advertise. I can highly recommend it." For Cuts, Splints, Spavins, Windpuffs, Bunches, has no equal. Trial box 50 cents, silver or stamps. Regular size \$1.50, delivered. Address W. B. Eddy & Co., Whitehall, N. Y.

FOR SALE. 4 young Red Polled Bulls, registered, from imported stock, fit for service. HERBISON BROS., Birmingham, Mich.

WANTED to purchase a car load of Grade Ewes, either Lincoln, Leicester, Cotswolds or Shrops. WILL COUTRIGHT, Newaygo, Mich.

DOGS FOR SALE.—Sporting and Pet Dogs. Pigeons, Rabbits and Hares. 10c. for catalogue. C. L. B. LANDIS, Bower's Station, Berks Co., Pa.

WANTED. GOOD MAN, married or single, to work on dairy farm. Address: T. C. DAIRY, Traverse City, Mich.

SEE THAT HOOK? WITH THE IMPROVED CONVEX DEHORNER you can cut off any size, shape or kind of horn without crushing. No other dehorner will do this. Catalogue free. WEBSTER & DICKINSON, Christina, Pa.

ELMWOOD STOCK FARM, The home of American bred PERCHERONS. Registered stallions and mares. Grade mares and geldings weighing from 1,500 to 1,800. Matched teams. HENRY C. WALDRON, Worden, Washtenaw Co., Mich.

FOR SALE. The Shorthorn three-year-old Peri Duke 10th, 120479. Red, little white; long and deep. A grand good getter of the finest quality. He has given us fifty calves without a loss. We sell only because his heirs are maturing. He has never been fed for the show ring, but is a prize winner every time exhibited. Weight about 2,300 lbs. in present working condition. Perfectly gentle and transmits his mild disposition. He is sure to improve any herd that secures him. Two yearlings and a few bull calves. THE A. P. COOK CO. Ltd., Brooklyn, Mich.

The Horse.

CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER, Detroit, Mich.

THE DEMAND AND PRICE IMPROVING.

There is no longer reason for doubting that we are on the edge of a scarcity of draft horses which will assuredly push up their values from this time forward. There are few good horses of this class being offered in the market. Most of those offered are either too light, or are not of good quality, and the very few good ones that do come to market are snapped up at good prices. During the past month, in the Chicago market, high class drafters have sold at from \$200 to \$300, but at the same time others listed as drafters have only brought \$85 to \$150. Those bringing the highest prices were from 1,800 to 1,900 lbs. in weight, sound in wind and limb, and well proportioned. They were also in good condition, ready to go into the show ring. The difference in price between the ordinary and choice specimens of this class of horses is certainly enough to enable those breeding them to go to extra expense and care to secure the top of the market. But to secure such specimens nothing must be neglected. You must have brood mares with both size and quality, and the sire must be selected with care. The progeny will be no better than the sire, hence the necessity of good judgment in his selection. The question of a few dollars in cost of service should never prevent the use of a sire if he meets all other requirements. Then when the colt comes he should be kept growing all the time. If the mare does not give milk enough to do this, cow's milk must be utilized. The colt should be learned to nibble oats as soon as possible, and when weaned should never be allowed to run down in flesh. If a colt becomes stunted or misshapen from improper feeding, or lack of food, it can never be fully remedied. It will neither have the size nor conformation which commands good prices in the market. There are more colts spoiled during their first winter than at any other period of their lives. They are neglected, underfed, and seldom properly sheltered.

As to the best breed, that really does not cut much of a figure. If you are breeding Percherons, Clydes or Shires, only breed the best and you will be satisfied. A good draft horse is a good one no matter what the breed, and this is the case in foreign markets as well as our own. Get typical animals of the breed so they will show at once the breed they belong to. That is always a strong point in a horse of any breed. The Percheron has the call in Chicago, the Clyde and Shire in eastern cities, and the prices paid for the best of each are generally very similar.

GRAIN FOOD FOR THE HORSE.

Prof. Thomas Shaw, of the Minnesota Experiment Station, gives some good advice in the following article regarding grain for horses. His endorsement of corn as a part of the horse's ration is in line with the experience of practical men, no matter how severely its use may be criticised by those who form their opinions upon the results of the work of the chemical laboratory rather than upon its effects upon the animal. The Professor has evidently modified the views he held some years ago regarding corn as a food for live stock. While the good qualities of corn entitle it to be considered as a valuable addition to the grain ration of the horse, it is also the cheapest grain that can be grown. The Professor says:

"The proportions of corn and oats which are best for working horses, will depend somewhat upon the nature of the work, and somewhat on the season of the year. The harder the horse is being worked, it would be correct to say, the larger the proportion of the corn that may be given to him, and the colder the weather, the more corn, relatively, he may be fed. But to keep the system in tone, he should be given oats and corn, and if some bran be added, heavy feeding can be continued with safety for a longer period than in the absence of bran. When horses are being worked hard, they will do very well on a grain ration in winter, two-thirds of which is corn, and in summer, on a grain portion, one-third or one-half of which is corn. But if one-fourth or one-fifth of the grain fed is bran, there is much less danger of digestive derangement

than when bran is not fed. So advantageous is bran to the grain food, that the aim should be to feed some of it during much of the year. The proportions named above relate to shelled corn and to weight rather than bulk.

"It would not seem to be very material whether the corn, oats and bran are all mixed before feeding, or whether they are fed separately; but even a horse tires of sameness, hence it may serve some useful end, as whetting the appetite, to feed the corn and oats separately, that is to say, to feed the corn morning and evening in winter, and the oats at noon, and in the summer to feed the oats morning and evening, and the corn at noon. The bran could be fed with one or the other of these grains.

"A horse weighing 1,200 pounds would require about fifteen to eighteen pounds of grain per day, that is to say five or six pounds at each of the three feeds; but care should be taken to lessen the amount of food when the work slackens, and in proportion as it slackens.

"Corn is deserving of a higher place as a grain food for work horses than is generally accorded to it, and of a higher place than the chemist would assign to it. The chemist speaks of it as containing too much starch to make it a suitable food for feeding to horses, especially in warm weather. Or if the chemists do not say that, many who have written on this subject say it for them, after they have taken the analysis of the chemist as the basis of their remarks. But the facts do not sustain those statements, since Illinois, Iowa, and other corn states have good, sound, healthy horses, speaking relatively, and when at work, their chief grain food is corn. Much of the prejudice that exists against corn as a food for horses has, doubtless, arisen from the ill effects that have come from feeding it when not in a perfectly wholesome condition. In many instances, it does not properly mature, especially in the northern states. When it does not so mature, it is likely to mold more or less, even when the mold on the exterior surface of the corn is not apparent to the eye; such corn is not wholesome, and dealers sometimes grind it to hide traces of mold; such meal should not be fed to horses. The man who feeds it on the cob knows best what he is feeding. On the other hand, the fact should not be overlooked that corn is not nearly so good a food for immature colts and brood mares as oats and bran, since it has not enough of the phosphates in it to build up the horse properly or enough of protein to build up the flesh."

HORSE GOSSIP.

Bookmaking and pool selling except on the race tracks is now a felony in Kentucky.

The National Trotting Association has adopted a rule which will bar out hopped horses after January 1, 1899. This is a step forward.

The skeleton of George Wilkes has been resurrected and presented to the Kentucky State College. It will be properly mounted and placed on exhibition.

The exhibitors at the Chicago Horse Show have not yet been paid. The Illinois State Board of Agriculture is responsible for the prizes awarded, and will finally have to pay them.

W. K. Vanderbilt will race a stable of two-year-olds in France the coming season, all bred there but from American mares which he shipped over in 1895.

The Chicago horse market has been very dull the past two weeks, as the result of a large supply of ordinary horses, which are not in demand. Even the value of good animals has been affected by the prevailing dullness.

It would be a good thing for the grand circuit stewards to make every member of the circuit offer a \$10,000 purse for the trotters and at least one of \$5,000 for pacers.—Boston Herald. It would be a grand thing if all racing associations were to require a substantial forfeit to be put up before

admitting a track to membership, so that all stakes and purses offered would be paid in full, either by the track management or out of the guarantee fund. There are too many fake meetings, which do no good to the horse interest, and a great deal of harm to responsible associations which fulfill their promises.

At a sale of horses in New York City Thursday of last week, 12 carriage teams belonging to H. Tichenor, of Chicago, sold for \$7,575, an average of \$630 a pair. New York horsemen considered these prices to be excellent, but the owner was disappointed at the outcome of the sale, saying the horses were worth more. W. A. McGibbon paid \$1,000 for the brown mares Serene and Senate, for shipment to England.

A correspondent of the Drovers' Journal says the Japanese government is buying American horses by the thousands for use in their army. The Northwest is overstocked with many of the cheaper grades of horses, and the purchases of Japan are affording a fine opportunity to decrease their herds of horses, and at the same time realize a good price on stock that is practically a white elephant on their hands. I have recently returned from the Northwest, where I consummated a deal involving the sale of 5,000 horses for one man. He received \$75.00 per head for them, free on board the car. While the Japanese government is paying a high price in the local market, it is shrewd enough not to let the stockmen palm off a lot of unbroken range horses, as each animal has to be broken to the saddle.

The Chicago Journal of Friday last says: "Ishmael Worton sent to Cradley Heath, near Birmingham, England, last night 46 head of horses, such as are used in England for brewery drags; among the lot were four Shires, say 5 to 6 years old, dark browns, and a bay that would average in weight 1,950 lbs. Then there were 16 Clydesdales, 5 to 6 years old, splendid specimens of the Scotch breed, six grays and 10 bays, to average 1,750 lbs. There were also 12 coach horses, 5 to 6 years old, chestnuts, grays, and blacks, that would weigh 1,450 lbs.; two matched pairs—one chestnut and the other dark browns; four American trotters, with pedigrees rich in the blood of old George Wilkes, neat, trim, sound as a dollar, 5 to 6 years old. Bridal Veil was among the trotters, and has pulled a road wagon a mile in 2:23. They will leave New York by the steamer Bovie on the 15th inst."

GOOD POSITIONS

secured by graduates of Dodge's Institute of Telegraphy, Valparaiso, Ind. Tuition, full course, (time unlimited) including typewriting, \$35; by the month \$7. Good board \$1.40; furnished room \$2c. per week. Good demand for operators. Catalog free.

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SPECIAL SALE of 25 head of heavy-boned, choice Poland-Chinas, Spring and fall farrow. Stock always on hand. W. M. L. FENNOCK, Hastings, Mich.

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Duroc Jersey Hogs and Langshan Cockerels. Bred sows cheap. J. S. STONERBAKER, El Paso, Ill.

DUROC JERSEYS. Choice stock of either sex all ages, for sale now. L. R. KUNLEY, Adrian, Mich.

LARGE ENGLISH BERKSHIRE SWINE of the best strains for sale. Write for breeding and prices. C. E. PAULTHORP & Co., Mt. Morris, Mich.

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DUROC JERSEY SWINE. Spring and fall pigs for sale, both sexes. H. D. HALL, Martin, Mich.

VILLAGE VIEW HERD OF P. C. SWINE. Spring boars and fall gilts at big discount. Pekin Ducks. J. C. TAYLOR, Grass Lake, Mich.

POLAND-CHINAS.—A few choice young boars. A grand lot of sows bred to the champion young boars "Chief Hidesetter" and "Wilkes Tecumseh" (Vol. 20, O. rec.). L. W. BARNES, Byron, Mich.

N. A. CLAPP, WIXOM, MICH., breeder of Large English Berkshire Swine. Write for prices.

GRAND RIVER HERD OF O. I. C.

JOHN BERNER, Prop., Grand Ledge, Mich. My stock comes direct from L. B. Silver Co. Write for prices.

FOR SALE. **DUROC-JERSEY PIGS:** B. P. R. Cockerels; Pekin Ducks. Eggs for hatching. J. H. BANGHART, Lansing, Mich.

FOR SALE from my great prize-winning herd of registered O. I. C. W. swine. Twelve extra fine boar pigs old enough for service. First man sending draft for \$12 gets the choice. G. S. BENJAMIN, Portland, Mich.

Hastings Stock and Poultry Farm, breeder and shipper of Poland-China swine, B. P. R. chicks and M. B. turkeys. Write for bargains. WILLARD PERRY, Hastings, Mich.

Special Sale of Chester Whites at CASS VALLEY FARM. Lot of fall and spring pigs, dandies, at 1/2 their value. Write to-day and secure bargain. W. W. BALCH, Deford, Mich.

DON'T YOU WANT A P. C. SOW? **COCKEREL?** Hickory Grove has some great bargains. Also spring boars and fall pigs. A. A. WOOD, Salsine, Mich.

PRINCE U. S. heads my herd of Poland-Chinas; he by Corwin King 17071; dam by Quality 12457. Sows bred, sale, fall pigs of Klever's Model, Tecumseh and Black U. S. strains. Also Light Brahmas chicks. E. D. BISHOP, Woodbury, Mich.

First Premium Herd of Poland-Chinas. Sows bred to King Klever for sale. Also some fall pigs. We won over one-third of the premiums offered at Mich. State Fair in '97, winning all the firsts on pigs, 8 herds competing. E. J. & L. HARRINGTON, Paw Paw, Mich.

KLEVER'S TECUMSEH heads my herd of Poland-Chinas; land-Chinas; weight 200 lbs. at six months, extra length and great depth. Sired by the \$5,100 Klever's Model, dam by the great Chief Tecumseh 2nd. Write your wants. W. M. H. COOK, Waterford, Mich.

W. O. WILSON, Okemos, Mich., proprietor of the Michigan Central herd of **IMPROVED CHESTER WHITES.** Choice pigs of March and April farrow, either sex and pairs not akin. Write me just what you want. Light Brahmas cockerels at \$1 each.

ACME PULVERIZING HARROW. CRUSHER & LEVELER

For all soils, all work. Crushes, cuts, lifts, pulverizes, turns, levels the soil in one operation. Cast steel and wrought iron—practically indestructible. Cheapest riding harrow on earth. \$8.00 and up. **SENT ON TRIAL.** To be returned at my expense if not satisfactory. N.B.—I deliver free on board at distributing points. **DUANE H. NASH, Sole Mfr.,** 1 and 30 So. Canal St., Chicago.

CONDUCTED BY ROBERT GIBBONS.

**SUCCESS WITH LINCOLNS ON
THE RANGE.**

**SUCCESS WITH LINCOLNS ON
THE RANGE.**

I might have pointed out to you only those isolated cases where the experiments have been most highly satisfactory and results produced have been all that could be desired. But had I done this, I would not have been true to my trust.

J. M. Wilson, of Wyoming, has had

Frank D. Barton, the well known breeder of Merino sheep, died at his home in Waltham, Vt., on January 24. He was 64 years of age. The Barton flock of Merinos was at one time in the very front rank, and sold at extremely high prices. Australian breeders paid him very long prices, as did American breeders. They had an established type of form and fleece that gave them great individuality. They belonged to the Atwood family. The points of excellence he bred for were fineness and density of fleece, and evenness in the distribution of the oil. These he attained in an eminent degree, but at some sacrifice in size and constitution. The form was good, but not large enough, and the intense breeding seemed to weaken their constitution. However, when bred to flocks lacking in these points referred to, but of a robust, hardy type, the results were generally very satisfactory. Mr. Barton had one of the largest farms in Vermont, about

The wool clip of the United Kingdom in 1897 was, says the Bradford Observer, 138,657,440 lbs., a greater quantity than that of either of the two preceding years. But the exports were much heavier, amounting to about 30,000,000 lbs., or more than double the quantity sent out of the country in 1896, and leaving only about 100,657,000 lbs. for home consumption. Although this is the smallest quantity of native wool left for home consumption recorded since statistics were collected, the average price has been lower than in any previous year in modern times, except 1892. The price of London hog wool, for example, fell from 10½d a pound in January, to 9½d in December, and the mean price of twelve months was only 9½d, as compared with 12½d for 1896, with 12½d for 1895, and with the minimum of 9d for 1892. Although imports of foreign and Colonial wool were heavy, exports were correspondingly large, and the net imports of eleven months were over seven million pounds less than those of 1896.



CATTLE.

SHEEP.

SHROP. EWES bred to high class rams. Better than Klondyke gold. Write at once for price list.
A. H. FOSTER, Allegan, Mich.

Runs Easy, Lasts Always And a boy can sow 30
ACRES of land in one

day. Sows all Grass Seeds, all Clovers, Alfalfa, Flax, Red Top, Orchard Grass, Millit, etc. Hopper for Wheat, Rye, Oats & Barley. No bother with stakes—just follow drill marks. Weighs 40 lbs.

O. E. THOMPSON & SONS, 25 River St., Ypsilanti, Mich.

Catalogue free.

WE SELL DIRECT TO FARMERS.

FARMERS BE WISE, DEAL WITH US AND SAVE 40 PER CT. ON YOUR FERTILIZERS.
You Save Salesman's Expenses and Agent's Profit.

	Analysis.	Phos. Amil. Per cent.	Ammonia, Per cent.	Actual Potash, Per cent.	\$22.00 per ton
Pure Raw Bone Meal.....		22 to 25	4 to 5	16.00
Four Fold Fertilizer.....		9 to 10	2 to 3	13 to 15	15.00
Smoky City " ".....		8 to 10	2 to 3	13 to 15	20.00
Big Bonanza " ".....		9 to 10	2 to 3	4 to 5	23.00
Potato Special " ".....		9 to 10	3 to 4	6 to 7	27.00
Tobacco Special " ".....		11 to 12	3 to 4	4 to 5	28.00
Bone and Meal.....		13 to 15	4 to 5	25.00

For samples and pamphlet, write **WALKER STRATMAN & CO.** Herr's Island, Pittsburgh, Pa.

LAWKEYE GRUB AND STUMP MACHINE

Pulls an ordinary
grab in 10 minutes. Makes
Clear Swamp of 2 Acres
in 1 Day. A man, a boy and a horse can operate it. No heavy chains or rods to handle.
 You can not longer afford to pay taxes on swamp land or timber land. Illustrated catalogue FREE.
 Write for it today. **W. L. MANNING, 1008**
SEVENTH AVENUE, NEW YORK, N. Y. and other addresses for clearing timber land.
 (Address New York, 100 Madison Ave. Catalogue)

and cart behind the cows, if practicable, and hauling direct to the field.

Another suggestion would be to use a large hand dump barrow, if your walk behind the cows is smooth and wide enough.

Any steel track, with hangers and a hay carrier, will do for the purpose of using a manure car. The car recently illustrated in The Farmer is a good one.

PAUNCH MANURE.

Will you kindly tell, through the columns of your paper, what the manurial value of "paunch" manure is, as it is taken from cattle and hogs at the stock yards slaughter house?

Herrien Co., Mich.

W. A. MOTZ.

We have no chemical analysis at hand, but should consider such manure more valuable than after being voided by the animals.

This material is the whole food eaten by the animal, masticated and mixed with saliva, then acted upon more or less by the gastric juices of the stomach.

We should refuse to pay commercial fertilizer prices for such manure, but would willingly take all we could secure at a fair price, if the cost of transportation was not too great.

For the Michigan Farmer.

THE SHORTHORNS ON TOP.

In an article in a recent issue of The Farmer, on "Guernseys at the World's Fair," some of the statements are misleading to your readers, as to the position occupied by the Shorthorns in the dairy tests at the World's Fair in 1893.

While the American Guernsey Cattle Club is undoubtedly a younger organization than the American Shorthorn Breeders' Association, yet you had upon your books the exact records of hundreds of tested cows, with regard to milk and butter production, and your representative knew exactly where to put his hands upon the very best cows of the Guernsey breed in this country.

This is also true of the Jerseys. But at that time there were probably not more than a score of Shorthorn cows in America, known to our representative, whose records for milk and butter production were known to a certainty. And the owners of some of the Guernseys, were unwilling to risk their valuable animals under such conditions as the tests required. While many more, who possessed animals capable of making highly creditable records, were dismayed at the private records of five and six pounds of butter per day, claimed by breeders of special purpose dairy cattle, and refused to let their favorites go to Chicago to compete with those "giants of the dairy."

When the time came for announcing the 25 cows to enter the test, No. 1, you will find, by referring to the Breeders' Gazette of May 17, 1893, page 386, that there had been quartered in the dairy barns at Jackson Park "over 50 Jerseys since the last of January, 33 Guernseys since the middle of March and less than 30 Shorthorns since the last week in April."

The Jersey and Guernsey representatives had some opportunity for "culling." Besides this their cows had become thoroughly accustomed to their quarters, and they had opportunities to test each one and knew which to choose, while the Shorthorns arrived less than two weeks before the opening of the test, May 11th, and their representative, H. H. Hinds, had no surplus from which to choose, and was obliged to include among his quota some cows which had been milking some time.

While the Jerseys had the advantage of the Guernseys, the Guernseys unquestionably had the advantage of the Shorthorns. To prove this assertion, I cite you again to the Breeders' Gazette of Nov. 8, 1893, page 310, where it says:

"The average excellence of the Jerseys was higher. The Guernseys ranked next in this respect, while the Shorthorns undoubtedly had more tail enders among them than either of the others. These statements are beyond controversy, and the facts were almost always remarked by visitors to the three barns." So much for the make up of the three herds.

As to the peculiar rules governing these tests, to which you call particular attention, most of them were far more detrimental to the Shorthorns than to the Guernseys. While the Guernseys always led on the color of the butter, on flavor the Shorthorns were nearly always equal, and many times led the Guernseys.

Both breeds were ahead of the Jerseys in flavor, but the Jerseys always

led on grain and solidity. This is a breed characteristic, and owing to the heat in the dairy house gave the Jerseys a great advantage over both Guernseys and Shorthorns.

The price for butter being so much greater than that received by the farmers in open market, worked greater injury to the Shorthorns than to the others. While it is true that in many of these tests the gain or loss in live weight was charged or credited to the cows, yet it was figured at four and one-half cents per pound, something near the market price, while butter was figured at from 40 to 47 cents per pound, according to the score. This was a great injustice to the Shorthorns.

While the Shorthorns generally led the others in the gain of live weight, yet the tables show that in many instances both the Jerseys and Guernseys made very liberal gains.

In the cheese test the Jersey cow, Lily Martin No. 3, holds her place by virtue of liberal growth, having gained 49 lbs. for 15 days, or three and four-fifteenths pounds per day, as good a gain as is often made by steers in the feed lot. In the same test the Guernsey cow Jeweler's Jessie No. 22 gained 42 pounds in 15 days.

The 30-day butter test was for butter alone. Gain or loss in weight or any of the by-products did not count, as butter alone was reckoned. In this test the Shorthorn cow Kitty Clay 4th won third place in competition with 15 cows of each breed, Jerseys, Guernseys and Shorthorns, the first Guernsey cow standing fifth. The Jersey cow that won the test died a few days after, so this left the Shorthorn cow virtually second.

This test was for butter alone, remember, but had increase in live weight been reckoned, let us see which breed would have profited most.

During the 30-day test the 15 Guernseys gained 280 pounds, the 15 Shorthorns 244 pounds and the 15 Jerseys 157 pounds, so it seems some other good dairy cows besides the Shorthorns put some of their feed on their backs as well as in the pail.

Volumes might be written upon the results of these dairy tests, but time and space forbid.

The Shorthorn breeders went into these tests to show to the world that they could produce an animal capable of paying its way, either at the pail or upon the block, and the results exceeded the expectations of their most sanguine friends.

These tests also proved to the world at large that the Shorthorn breed contained representatives which, for dairy purposes alone, could only be surpassed by the choicest animals of the special purpose dairy breeds.

FREEMAN J. FISHBECK.

Livingston Co., Mich.

(We spent a day or two at friend Fishbeck's while attending farmers' institutes in Livingston Co. several weeks ago. At that time we urgently requested him to write for The Farmer. As he claimed to have no "spare time" we decided to furnish an incentive, which happened to be the Guernsey article submitted to us some time ago.)

Friend Fishbeck, you are fairly irritated now, so come again any time when you are furnished an "incentive," though you have no spare time.—Ed.)

For the Michigan Farmer.

HAS TRIED MANY METHODS.

E. F. Brown tells how to spread manure so as to get over an acre with a certain number of loads.

I have been hauling out the manure from the stables daily, or, at the farthest, weekly, except a short time in haying and harvest, since 1874, and think my plan simpler than his.

I spread a strip eight feet wide on each side of the wagon, or sled, which makes one rod wide. Then the number of rods in length of the strip covered by one load, gives the number of square rods covered by the load.

By watching a man for two or three loads and having him pace the strips covered, he soon learns how many rods the load covers. If one load covers a strip eight rods long, the rate is twenty loads per acre. They are apt to spread too wide a strip and put on the manure too thick.

I think it better to spread the manure when drawn, as a rain washes the soil. And if left in heaps the land under the heap gets more than its share.

Fields of wheat are often seen which show the location of the manure piles by the bunches of tall rank wheat.

There are times when the ground is too soft for hauling or driving on it, and a flat heavy clay soil will be worse

in this respect than rolling land or gravelly soil. On rolling land care should be taken to cover the hillsides when the ground is not frozen. Also not to put manure in the low places in the field. The hills will need it all, no matter what the quantity.

We tried during 20 years a great many ways of using the manure, such as piling it up to rot, and then spreading on newly sown wheat, leaving it in the yard without handling over, and incidentally wading through it, which was nasty for man and beast; drawing it out and leaving in piles until a convenient season for spreading, but the leisure time never came, and it nearly always hindered other work.

While we were experimenting in all these ways, we began to draw and spread as fast as made, because it seemed the easiest and cleanest solution of the manure problem. We did it with many misgivings, fearing it was throwing the manure away.

But after five or six years' trial of this method, on parts of fields, the balance of the field being treated in some other and more usual manner, we were convinced that fresh manure hauled out and spread was as effective in promoting the growth of crops as any other kind. And in neatness, comfort and cheapness it excels all others.

Shlawassee Co., Mich.

CHAS. E. HOLLISTER.

(This is good testimony and should be heeded.—Ed.)

For The Michigan Farmer.

CRIMSON CLOVER AND ALFALFA.

I see by reading your valuable paper some things in regard to crimson clover and alfalfa. I will state my experience, although it is rather limited.

I am on a sand farm. I sowed half an acre this fall. It was sown the 6th of September, and I have a splendid seeding now. At this writing (Dec. 15), it nearly covers the ground.

I have also two acres of alfalfa that was sown September 13th. It is fine now. I have just plowed up a small patch of alfalfa that has been sown two years and cut four times.

I dug up some of the roots that are five feet five and one-half inches long, and one-half inch through at the crown.

I am well pleased with my experience, as I know if cut at the right time it will make good hay.

Muskegon Co., Mich.

D. C. F.

(Let us hear about the growth and results, in due time, during the coming season.—Ed.)

For The Michigan Farmer.

FARM ACCOUNTS.

I noticed in The Michigan Farmer for January 8th that you advise and believe every farmer should keep some kind of an account.

Now I would like to know what is the best method of keeping books by single entry, where you do a cash business and keep only a ledger?

I am in the milk business, selling milk to customers, receiving a good deal of money, and I should like to know what is the best way of entering the receipts of same on ledger.

Also what is the best way of keeping one's own personal cash accounts? Would like to have you illustrate your method in The Farmer.

Midland Co., Mich.

L. E. WALDO.

(We illustrated our plan of keeping a day book last winter, according to one form of single entry.)

We think "Our Farmers' Account Book" would be just the thing for your purpose. It is one of the best account books we can find. Is cloth bound, contains 208 pages, and is sent, postpaid, to any address for 60 cents. Write to The Michigan Farmer, Detroit, if you wish a copy.—Ed.)

SPRING is COMING

Now is the Time to Purify Your Blood.

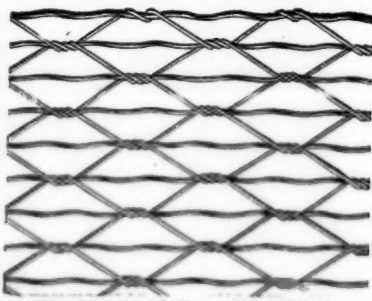
Owing to close confinement, diminished perspiration and other causes, in the winter, impurities have not passed out of the system as they should but have accumulated in the blood. For a good spring medicine we confidently recommend

Hood's Sarsaparilla

The Best—in fact the One True Blood Purifier. Sold by all druggists. \$1; six for \$5.

Hood's Pills cure Liver ills; easy to take, easy to operate. 25c.

THE YANKEE FIRE-KINDLER Builds 100 Fire with 10c of oil. No kindling. No waste. 3 years. Greatest Seller for Agents ever invented. Sample with terms prepaid, 15c. YANKEE KINDLER CO., CHICAGO, ILL. 37, Sta. 1.



The Kitzelman Up-to-Dace Fence.

The fence here shown is made of a high grade of Galvanized Coiled Spring Wire with the Duplex Automatic Ball Bearing Woven Wire Fence Machine, which is made entirely of iron and steel, and is so simple and easily operated that anyone can take it right into the field and make 50 to 80 rods a day of the best fence on earth, horse-high, bull-strong, pig, chicken, or rabbit-tight at a cost for the wire of only 12 to 20 cents a rod. Messrs. Kitzelman Bros., Ridgeville, Indiana, whose advertisement appears elsewhere in this paper, claim this machine is Perfection itself. They also claim to be able to sell a machine and enough wire to make 100 rods of an "Ideal Farm Fence" for less money than 90 rods of any good woven wire farm fence now on the market can be bought for in the roll. Send for their illustrated catalogue which fully describes machine and shows 24 different designs of fence the machine will make.

High Grade Implements.

We call the attention of our readers to the advertisements of Marvin Smith Co., Chicago, Ill. in this issue. They appeal with singular force to the economical farmer who wishes to purchase at first hands high grade implements, such as plows, harrows, cultivators, pumping and power windmills, and all other kinds of implements, at the lowest bedrock prices.

This firm handle only the best goods, and quote prices that cannot be met elsewhere. Read their advertisements and send for their 208-page spring agricultural catalogue.

WHEN WRITING TO ADVERTISERS

Please mention that you saw their advertisement in the MICHIGAN FARMER.

THE WHEEL OF TIME
for all time is the....
Metal Wheel
We make them in all sizes and varieties, TO FIT ANY AXLE. Any height, any width of tire you may want. Our wheels are either direct or stagger spokes. Can FIT YOUR WAGON, Perfectly without change....
NO BREAKING DOWN
no drying out, no resetting tires
CHEAP because they endure
Send for catalogue and prices
Electric Wheel Co.
Box 55 Quincy, Ill.

Satisfaction guaranteed or money refunded on every
MARILLA
INCUBATOR & BROODER
we sell. Are not those reasonable terms? That shows you how much faith we have in our machines. Either HOT WATER or HOT AIR machines. A child can work them. Eleventh year on the market.
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CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER
Detroit, Mich.

For The Michigan Farmer.

RYE, RYE SMUT, ETC.

In a comment on an article by M. B. J., in a recent Farmer, the editor says: "All smuts should be treated with suspicion."

Not long ago our Agricultural College made exhaustive experiments in feeding corn smut to cows. If I am not mistaken, they fed to pregnant cows, over 25 pounds of dry corn smut per day, (all they would eat), without any ill effect. I have also talked with parties from the West, who were in the habit of turning cattle into their stalk fields and allowing them to eat all they would, and they agree that they never knew any ill results to follow. Where cattle were sick it was invariably the result of eating too much corn, instead of smut. Cattle are inordinately fond of smut, and will eat it if it is to be had. I frequently cut the green smut from my corn and throw it into the pasture lot and have yet to see any sickness or abortion caused by it. With smut rye, I believe the case to be different. That smut rye will cause abortion I do not doubt, but smut can be easily taken out of rye with a good fanning mill, and then if the rye is ground and fed with sour milk, buttermilk, etc., it is a good feed for hogs. Better than boiled rye, with me. I don't think rye at present prices is an economical feed, compared with corn or beans. Cull beans, boiled and fed to hogs, will make them gain very fast. I fed sixteen shoats last winter on cull beans. They were weighed into the feed lot, and a strict account kept of what they were fed. Were sold in May and made me some money. Will give facts and figures from my books, if The Farmer thinks it worth while.

At present cull beans are too high to pay to feed. With corn at 32 cents per bushel, shelled and culled beans at 20 cents per bushel, and rye at 45 cents per bushel, I will take the corn every time. Last winter cull beans, of very good quality, sold here for nine cents per bushel, and later at ten cents per bushel. These, when boiled, make cheap feed for hogs and milch cows. Nearly all of my neighbors who patronize the milk factory at Howell, feed boiled cull beans to cows, with profit.

Livingston Co., Mich. F. L. WRIGHT.

For The Michigan Farmer.

HOGS AND THEIR BEDDING.

I was interested in friend Cowdrey's article in a recent issue on "cheap pork." Not that the farmers want to see cheap pork but that they should learn to raise swine at a nominal price in order to compete with the western swine raisers. Bro. Cowdrey's article was every word to the point and as I am making this branch of farming a little more distinct than the common run of farmers, I was much benefited thereby.

I have always maintained that the greatest deficiency in modern agriculture was not the lack of tools, capital, ambition, or a hundred other things that could be mentioned, but brains. Brains and their proper use are the life of any vocation. When we see or read of any great undertaking or of sudden success in business we usually remark "there were brains back of that." So may we say of the successful swine breeder. It takes brains as well as grains to make a drove of hogs so that the producer may realize a profit above labor and feed. And what is the use of doing a thing unless, under favorable circumstances, we may expect compensation.

Our farm may or may not be good for hogs, but it is good to produce large yields of corn per acre and good clover soil, which goes a good way toward making the first cost of the pork small. Labor must be taken into consideration, and the more convenient our arrangements are the greater our profits will be.

Peas are one of the best feeds for pigs and they do their own harvesting. This is something we have to look after, for the harvesting of a field of corn is no small item, and if we can grow crops that are just as good to produce gain with little or no expense in harvesting, then that is what we should do. But this is not all there is

to the pea crop. They ripen in July, just after June clover, and one can dispose of his early litters two or three months in advance of corn-fed ones.

It is all right to grow large corn crops—it is the farmer's best crop—for there are seasons when stock cannot get anything to eat outside of the reserved supply, whatever that may be, and corn, to my notion, is the king crop.

I wonder how many farmers ever bed down their brood sows with corn fodder? Not very many, I dare say. But it makes a splendid nest—superior to straw when the hogs once get them well broken up. Straw is all right where one has plenty on hand and going to waste and, no doubt, it would be economy to use straw for bedding in such a case and feed the fodder, especially so if short of coarse feed. I speak of this simply to show how stalks can be used, for on some farms straw is scarce and corn fodder plenty.

Clover hay makes a good nest beside furnishing worlds of nourishment to the hogs. There is one trouble in bedding hogs with the clover in the winter time. They will eat it up unless bedded every day or so, depending on the amount used.

One mistake, I think, we farmers as a rule make, is the neglecting to properly bed our hog yards during the winter months. Here we may say is one of the leaks in the swine business.

Men of advanced ideas and practical farmers, too, note the important fact that grain-fed manure is richer in plant food than any other kind; and what is there on the farm, outside of the chickens, that gets as much clear grain as the hogs.

And what is there on the farm that is allowed to run (if not all over the farm) at least in such shape as never to collect enough manure to make any show when drawing to the field.

The best results we ever obtained from any manure was when we kept our hogs shut in a small building during feeding time and bedded down every day the same as our cattle and horses.

Supposing as much straw or corn fodder were used for bedding in the hog yards and nests as is used in the horse and cow barns according to the amount of grain fed. This would put a stop to the leak in the hog industry and make the first cost still less and our profits more satisfactory.

ELIAS F. BROWN.

For The Michigan Farmer.

SUGGESTIONS ON FEEDING CATTLE.

In reply to request of J. W. Carson, in issue of February 5th, for a few pointers on feeding cattle, I send the following: To become a successful feeder, good, comfortable, well ventilated stables would be required. Another important thing is to select the proper kind of animals as there is a great difference in animals as feeders. What is now wanted is a steer of low-down blocky make, of good quality, full of juice, well fattened, with plenty of steak and good sirloin. A good supply of roots is also necessary, as your cattle will eat and thrive better when given a liberal allowance of roots.

In feeding steers we use very little hay, feeding principally with oat straw, corn fodder run through a cutting box with a splitter attachment, and chaff, with from 50 to 60 pounds of roots given in two feeds each day, and from six to eight pounds of chopped oats and corn or peas—about half of each. With the above ration we have no trouble in making our steers gain on an average of two pounds per day.

In feeding we should always study economical methods, in order that we may produce beef at the least possible cost, because wasteful feeding will so increase the cost of production that no market we can reach under the most favorable circumstances can leave a profit to the feeder. Feeding should be done regularly, stables cleaned and well bedded. If they are kept tied in comfortable quarters it is a great help in feeding.

Do not approve of stanchions for cattle. They are among the things of the past with most breeders and feeders. By all means I would recommend to discard the stanchions. Tie with chains or use patent stall, if you keep your cattle tied. If you have a proper place they will even do better if left loose, particularly feeders.

Mr. Carson says his cows are kept in stanchions, with a trench behind them for the droppings, which is cleaned out every two weeks. His trench must be a large one, or the cows would be standing in a very filthy and

uncomfortable position by the end of the second week. And, besides, I consider it a very untidy way to keep a stable, particularly where cows are kept. Would not like to have to attend to the milking in a stable kept in that way.

JOHN MARSHALL.

Tuscola County, Mich.

(Mr. Marshall's suggestions as to cattle kept housed are good. So are the ration he feeds. But it is not necessary to have a costly barn to make a success in feeding cattle. A deep shed open in front, with mangers at back, well bedded, and an open yard to run in, makes the work of caring for a bunch of cattle much less. It requires a little more feed to make the same gain, it is true, but the open air and exercise are excellent appetizers and keep the animals feeling well all the time.)

In the southern counties, where open air feeding is mostly followed, the corn crop is used much more extensively than suggested by Mr. Marshall. Reinforced with a little clover hay, it is about all that is fed by many farmers. The corn is left standing in the shock till required, and fed without husking or cutting. It is surprising how well cattle do upon this style of feeding, and the amount of hard work that is saved in caring for a bunch of cattle. We believe it is good policy to dehorn cattle before beginning feeding. Dehorned steers, other things being equal, will sell 5 to 10c per hundred more in the Chicago market than those with horns. Besides this, they are much quieter and more easily handled in the feed yard or barn.—Ed. Farmer.)

STOCK NOTES.

There is a large and growing demand for young Shorthorn bulls in this State. It is evident Michigan farmers are going to pay more attention to beef production than for some years. A couple of crosses of good Shorthorn bulls will have a most beneficial influence upon the quality of the beef cattle of the State.

The Chicago Inter-Ocean publishes the following: "The Farnworth Hog.—In response to a request for a description of the Farnworth hog, we give that sent out by Prof. Thomas Shaw, who is something of an authority on the subject." Here is a new breed of hogs sprung on the country without a word of warning. The description given of it is precisely the same as the one given by Prof. Shaw of the Tamworth. Perhaps the "Farnworth" was evolved from the Tamworth by the Inter-Ocean's "agricultural editor."

The Birmingham (England) Mercury of recent date said: "The American producers are cute, and seeing that the taste for frozen meat is dying out in this country, they are now sending over large numbers of bullocks and sheep alive. At present there are hanging in Smithfield market sides of beef and carcasses of sheep, the quality of which is said to equal if not surpass that of the English fed animal. Lamb at Christmas may sound out of place, but visitors to the market can see carcasses of lambs, the age of which is only 9 months, and they are in excellent condition. The following figures give an idea of the meat supply from the United States: During the week ending December 11, there were landed at Birkenhead, 6,400 live beasts known in trade as 'Best States,' and the week ending December 18, 6,856. At London the numbers were for each week, respectively, 4,876 and 5,428. These were slaughtered at the port of debarkation, and it is interesting to know that 800 sides a week, representing 400 beasts, were consigned to Birmingham. Although the meat is claimed to be as good as that of the English-bred beast, the prices are considerably lower."

How to Cure Scab.

Dr. M. E. Knowles, State Veterinarian of Montana, gives some valuable information in the annual report of Montana's Board of Sheep Commissioners. He says: "The successful treatment of scab depends upon the remedy used and the thoroughness with which it is applied. It is, I believe, a conceded fact that the best method is to always, whether in winter or summer, have the dip as hot as the sheep can bear it. In my opinion the reliable tobacco dips are the safest and most economical of all, and as nicotine is the principle in tobacco that is fatal to the scab mite, the most economical and safest dip to buy is the one containing the highest percentage of nicotine. It would be well for the sheep owner to purchase nicotine in as pure a form as possible so that he may avoid paying the excessive freight."

"Tobacco Dip is also probably the safest and cheapest to be used in dipping for ticks on sheep. In speaking of this matter recently to Sheep Commissioner Davis Higler, of Fergus, who has had a large experience in dipping sheep for ticks, he very highly praises Scabura, which is simply a nicotine dip. He says that by using one bottle to a hundred gallons of water all the ticks are effectually killed by one dipping."

Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and synopsis of the case fully, also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Barren Heifer.—Have taken my heifer to four or five different bulls and she is not in calf. She will be two years old in March. J. H. Maline, Mich.—Your heifer is barren. Make beef of her.

Worms in Sheep.—Two lambs in a flock of fifty that I am fattening are not doing well. When I put them up last fall they were in good health. They soon failed on dry feed. C. M. P., Elva, Mich.—Give ground gentian in feed. Change feed.

Ringbone.—Five-year-old horse has a small ringbone. A. R., Brighton, Mich.—Blister with caustic balsam once every two weeks and give rest while you are treating him. The ringbone will grow smaller as the animal grows older, provided it has been killed.

Tuberculosis.—What are the symptoms of tuberculosis in cattle, and what are the State laws respecting its control? E. T., Cadmus, Mich.—If you suspect tuberculosis in your cattle, have your veterinary make a tuberculin test, or write the State veterinarian and he will do so.

Lumpjaw.—Three-year-old cow developed small lump on right jaw several months ago. Grew larger until about the size of a man's fist, then drew to a head. We lanced it. Do you think it lumpjaw? Cow seems to be perfectly healthy. Would her meat be fit for use? E. W., Findlay, Mich.—If sore on jaw is healed, her meat would be fit for use.

Megrimis.—Brood sow picks her hind feet up high in going up to feed trough and then begins to back up and sit down on her haunches. D., Vernon, Mich.—Your sow suffers from megrimis. Give her enough epsom salts in feed to purge her. She should have more exercise and less feed for a week. Keep her bowels open and acting freely.

Sheep Have Lice.—Our sheep have been running down for some time and on close examination we find that they are covered with lice. Insects are about one-half larger than hen lice. G. B., Union City, Mich.—Apply kerosene twice a week. The wool should be parted and kerosene applied to skin about head, neck, shoulders and back. Do not use large quantities but apply it carefully.

Nail Puncture in Foot.—Four-year-old horse went lame. Found hole in frog of foot. I fear he is cock-ankled. Have used liniments on him but he is no better. Have also used lard and turpentine. F. S., Freeport, Mich.—When a horse has nail in foot he knuckles over. Soon as foot gets well his fetlock will appear all right. Cut frog away from nail hole and apply one part carbolic acid to twenty parts water three times a day. Saturate sponge with above lotion and apply to bottom of foot in order to prevent dirt and filth getting into wound.

Paralysis—Knuckling.—1. My hens get lame in one leg and soon lose the use of both. I feed corn and oats. Have been feeding rye and corn meal in the morning. They are in a new house lined with tarred paper. Floor is sawdust from last winter's icehouse. 2. Is there any cure for a horse that breaks over on hind ankle when traveling. C. L. C., Pompei, Mich.—1. Clean your chicken house of all dirt and filth. Whitewash walls and sprinkle some lime and ashes on floor. Use straw for bedding. Give them a little powdered colchicum in feed. Feed no rye. 2. Blister horse with caustic balsam once every two weeks.

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ILLINOIS ECHO.—Mr. J. K. P. Fleming, Prominent Horseman of Freeport, remarks: "I have used Quinn's Ointment in my stable, and it does all you advertise. I can highly recommend it." For Cuts, Splints, Spavins, Windpuffs, Bunches, has no equal. Trial box 50 cents, silver or stamps. Regular size \$1.50, delivered. Address W. B. Eddy & Co., Whitehall, N. Y.

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The Horse.

CONDUCTED BY ROBERT GIBBONS.

Address all correspondence to MICHIGAN FARMER, Detroit, Mich.

THE DEMAND AND PRICE IMPROVING.

There is no longer reason for doubting that we are on the edge of a scarcity of draft horses which will assuredly push up their values from this time forward. There are few good horses of this class being offered in the market. Most of those offered are either too light, or are not of good quality, and the very few good ones that do come to market are snapped up at good prices. During the past month, in the Chicago market, high class drafters have sold at from \$200 to \$300, but at the same time others listed as drafters have only brought \$85 to \$150. Those bringing the highest prices were from 1,800 to 1,900 lbs. in weight, sound in wind and limb, and well proportioned. They were also in good condition, ready to go into the show ring. The difference in price between the ordinary and choice specimens of this class of horses is certainly enough to enable those breeding them to go to extra expense and care to secure the top of the market. But to secure such specimens nothing must be neglected. You must have brood mares with both size and quality, and the sire must be selected with care. The progeny will be no better than the sire, hence the necessity of good judgment in his selection. The question of a few dollars in cost of service should never prevent the use of a sire if he meets all other requirements. Then when the colt comes he should be kept growing all the time. If the mare does not give milk enough to do this, cow's milk must be utilized. The colt should be learned to nibble oats as soon as possible, and when weaned should never be allowed to run down in flesh. If a colt becomes stunted or misshapen from improper feeding, or lack of food, it can never be fully remedied. It will neither have the size nor conformation which commands good prices in the market. There are more colts spoiled during their first winter than at any other period of their lives. They are neglected, underfed, and seldom properly sheltered.

As to the best breed, that really does not cut much of a figure. If you are breeding Percherons, Clydes or Shires, only breed the best and you will be satisfied. A good draft horse is a good one no matter what the breed, and this is the case in foreign markets as well as our own. Get typical animals of the breed so they will show at once the breed they belong to. That is always a strong point in a horse of any breed. The Percheron has the call in Chicago, the Clyde and Shire in eastern cities, and the prices paid for the best of each are generally very similar.

GRAIN FOOD FOR THE HORSE.

Prof. Thomas Shaw, of the Minnesota Experiment Station, gives some good advice in the following article regarding grain for horses. His endorsement of corn as a part of the horse's ration is in line with the experience of practical men, no matter how severely its use may be criticised by those who form their opinions upon the results of the work of the chemical laboratory rather than upon its effects upon the animal. The Professor has evidently modified the views he held some years ago regarding corn as a food for live stock. While the good qualities of corn entitle it to be considered as a valuable addition to the grain ration of the horse, it is also the cheapest grain that can be grown. The Professor says:

"The proportions of corn and oats which are best for working horses, will depend somewhat upon the nature of the work, and somewhat on the season of the year. The harder the horse is being worked, it would be correct to say, the larger the proportion of the corn that may be given to him, and the colder the weather, the more corn, relatively, he may be fed. But to keep the system in tone, he should be given oats and corn, and if some bran be added, heavy feeding can be continued with safety for a longer period than in the absence of bran. When horses are being worked hard, they will do very well on a grain ration in winter, two-thirds of which is corn, and in summer, on a grain portion, one-third or one-half of which is corn. But if one-fourth or one-fifth of the grain fed is bran, there is much less danger of digestive derangement

than when bran is not fed. So advantageous is bran to the grain food, that the aim should be to feed some of it during much of the year. The proportions named above relate to shelled corn and to weight rather than bulk.

"It would not seem to be very material whether the corn, oats and bran are all mixed before feeding, or whether they are fed separately; but even a horse tires of sameness, hence it may serve some useful end, as whetting the appetite, to feed the corn and oats separately, that is to say, to feed the corn morning and evening in winter, and the oats at noon, and in the summer to feed the oats morning and evening, and the corn at noon. The bran could be fed with one or the other of these grains.

"A horse weighing 1,200 pounds would require about fifteen to eighteen pounds of grain per day, that is to say five or six pounds at each of the three feeds; but care should be taken to lessen the amount of food when the work slackens, and in proportion as it slackens.

"Corn is deserving of a higher place as a grain food for work horses than is generally accorded to it, and of a higher place than the chemist would assign to it. The chemist speaks of it as containing too much starch to make it a suitable food for feeding to horses, especially in warm weather. Or if the chemists do not say that, many who have written on this subject say it for them, after they have taken the analysis of the chemist as the basis of their remarks. But the facts do not sustain those statements, since Illinois, Iowa, and other corn states have good, sound, healthy horses, speaking relatively, and when at work, their chief grain food is corn. Much of the prejudice that exists against corn as a food for horses has, doubtless, arisen from the ill effects that have come from feeding it when not in a perfectly wholesome condition. In many instances, it does not properly mature, especially in the northern states. When it does not so mature, it is likely to mold more or less, even when the mold on the exterior surface of the corn is not apparent to the eye; such corn is not wholesome, and dealers sometimes grind it to hide traces of mold; such meal should not be fed to horses. The man who feeds it on the cob knows best what he is feeding. On the other hand, the fact should not be overlooked that corn is not nearly so good a food for immature colts and brood mares as oats and bran, since it has not enough of the phosphates in it to build up the horse properly or enough of protein to build up the flesh."

HORSE GOSSIP.

Bookmaking and pool selling except on the race tracks is now a felony in Kentucky.

The National Trotting Association has adopted a rule which will bar out hopped horses after January 1, 1899. This is a step forward.

The skeleton of George Wilkes has been resurrected and presented to the Kentucky State College. It will be properly mounted and placed on exhibition.

The exhibitors at the Chicago Horse Show have not yet been paid. The Illinois State Board of Agriculture is responsible for the prizes awarded, and will finally have to pay them.

W. K. Vanderbilt will race a stable of two-year-olds in France the coming season, all bred there but from American mares which he shipped over in 1895.

The Chicago horse market has been very dull the past two weeks, as the result of a large supply of ordinary horses, which are not in demand. Even the value of good animals has been affected by the prevailing dullness.

It would be a good thing for the grand circuit stewards to make every member of the circuit offer a \$10,000 purse for the trotters and at least one of \$5,000 for pacers.—Boston Herald. It would be a grand thing if all racing associations were to require a substantial forfeit to be put up before

admitting a track to membership, so that all stakes and purses offered would be paid in full, either by the track management or out of the guarantee fund. There are too many fake meetings, which do no good to the horse interest, and a great deal of harm to responsible associations which fulfill their promises.

At a sale of horses in New York City Thursday of last week, 12 carriage teams belonging to H. Tichenor, of Chicago, sold for \$7,575, an average of \$630 a pair. New York horsemen considered these prices to be excellent, but the owner was disappointed at the outcome of the sale, saying the horses were worth more. W. A. McGibbon paid \$1,000 for the brown mares Serene and Senate, for shipment to England.

A correspondent of the Drovers' Journal says the Japanese government is buying American horses by the thousands for use in their army. The Northwest is overstocked with many of the cheaper grades of horses, and the purchases of Japan are affording a fine opportunity to decrease their herds of horses, and at the same time realize a good price on stock that is practically a white elephant on their hands. I have recently returned from the Northwest, where I consummated a deal involving the sale of 5,000 horses for one man. He received \$75.00 per head for them, free on board the car. While the Japanese government is paying a high price in the local market, it is shrewd enough not to let the stockmen palm off a lot of unbroken range horses, as each animal has to be broken to the saddle.

The Chicago Journal of Friday last says: "Ishmael Worton sent to Cradley Heath, near Birmingham, England, last night 46 head of horses, such as are used in England for brewery drags; among the lot were four Shires, say 5 to 6 years old, dark browns, and a bay that would average in weight 1,950 lbs. Then there were 16 Clydesdales, 5 to 6 years old, splendid specimens of the Scotch breed, six grays and 10 bays, to average 1,750 lbs. There were also 12 coach horses, 5 to 6 years old, chestnuts, grays, and blacks, that would weigh 1,450 lbs.; two matched pairs—one chestnut and the other dark browns; four American trotters, with pedigrees rich in the blood of old George Wilkes, neat, trim, sound as a dollar, 5 to 6 years old. Bridal Veil was among the trotters, and has pulled a road wagon a mile in 2:23. They will leave New York by the steamer Bovic on the 15th inst."

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Special Sale of Chester Whites at **CASS VALLEY FARM.** Lot of fall and spring pigs, dandies, at ½ their value. Write to-day and secure a bargain. **W. W. BALCH, Deford, Mich.**

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PRINCE U. S. heads my herd of Poland-Chinas; he by Corwin King 1701; dam by Quality 12457. Sows bred for sale, fall pigs of Klever's Model, Tecumseh and Black U. S. strains. Also Light Brahma chicks. **E. D. BISHOP, Woodbury, Mich.**

First Premium Herd of Poland-Chinas. Sows bred to King Klever for sale. Also some fall pigs. We won over one-third of the premiums offered at Mich. State Fair in '97, winning all the firsts on pigs, 8 herds competing. **E. J. L. HARRINGTON, Paw Paw, Mich.**

KLEVER'S TECUMSEH heads my herd of Poland-Chinas; weight 200 lbs. at six months, extra length and great depth. Sired by the \$5,100 Klever's Model, dam by the great Chief Tecumseh 2nd. Write your wants. **WM. H. COOK, Waterford, Mich.**

W. O. WILSON, Okemos, Mich., proprietor of the Michigan Central herd of **IMPROVED CHESTER WHITES.** Choice pigs of March and April farrow, either sex and pairs not akin. Write me just what you want. Light Brahma cockerels at \$1 each.

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SUCCESS WITH LINCOLNS ON THE RANGE.

At the annual meeting of the National Lincoln Sheep Breeders' Association at Lansing, J. L. Draper, of Wool Markets and Sheep, read a paper on this subject. It was a very candid and fair statement of the subject, and we should give it in full if our space allowed. However, we give a large portion of the paper, selecting the parts of the greatest interest to the breeders of this State.

Respecting the Lincoln's adaptability to the ranges of the West, I believe that even those most biased or prejudiced in the Lincoln's favor must admit that he is valuable there principally for the admixture of his blood rather than for a foundation for future flocks and herds. It is a well known fact that the environment shapes and controls very largely the adaptability of certain animals to certain localities. It transpires that after years of experiment, the little, much despised Merino has proven itself in every particular, a superior animal for our semi-arid ranges. The Merino possesses in its make-up, certain objectionable features which have been obliterated by the admixture of other blood, but in the main he has been and remains the foundation, the corner-stone, the very underlying principle of success, past, present and future of sheep range industry. This being true, there is not now, and under existing conditions there never will be, a time when it can be entirely displaced from its present strongly entrenched position on the range by large herds of the open wool or mutton class of sheep. This is not merely my personal view of the matter, but the observation and experience of those men who have been largely engaged in the industry and brought it to its magnificent present proportions.

It behooves us, gentlemen, to be honest with ourselves. It is a fact well known to all, that the Lincoln, of all breeds, carries the most open fleece of wool. Range experience teaches us that a more or less solid, compact fleece is necessary to withstand both hot and cold extremes of weather, and the excessive dust and sand storms where sheep are herded together in large bands without shelter.

This would seem to be an argument against your favorites, but it is not necessarily so. Taking the Merino as he exists to-day on the range, as a nearly perfect type for the object of his use, his greatest deficiencies lie along the line of his small carcass, the rather medium quality of his flesh and his deficiency in the best cuts, we are brought to face the problem of improvement without destroying or disseminating any of the good qualities of the foundation stock.

In his effort to secure something to obtain this purpose and that would enable him to come to the market with a mutton showing a good carcass, and possessing good cuts when laid upon the butcher's block, the ranchman has set about him with a determination born of desperation to grade up. In his selection of the particular breed to be used in this improvement, all the leading mutton breeds have been used. The results in no particular instance produce entire satisfaction, the reason being due largely to the fact that the ranchman was dealing with an animal new to him and under conditions new to the breed. The Lincoln has come in for his share of experimentation, and I wish to congratulate you, gentlemen, upon the splendid manner in which he has acquitted himself.

One of the greatest objections urged against him is one which you have all heard and which you know as well as myself, is his open fleece and his tender skin. I would not call attention to these facts but for the reason that these objections do exist and are urged by the ranchman with a considerable amount of force and not without reason. I have, with you, however, unbounded faith in the ability of the Lincoln to eventually transform the sheep of the range into an animal much better suited to the wants of the constantly increasing mutton-loving people of this grand United States.

I might have pointed out to you only those isolated cases where the experiments have been most highly satisfactory and results produced have been all that could be desired. But had I done this, I would not have been true to my trust.

The foundation stock of the future range flocks of cross bred sheep is in your hands. You are the men to mold the animal with the skill for which you are so famed. The sires that shall leave their imprint upon the sheep of the ranges, and bring honor and wealth to yourselves and the ranchmen, are in your hands. It behooves you, therefore, gentlemen, to understand all the conditions in order that you may produce results that will leave nothing objectionable in the Lincoln sheep for the range. It is not a hopeless, nor yet an unsurmountable difficulty. I have faith in you and adjure you to have faith in yourselves. No man questions the ability of the Lincoln ram to leave his imprint upon any flock of any breed of sheep, for he has been bred for a greater length of time in straight blood lines without any outside admixture, than any other known breed to-day.

This places his prepotency beyond any question of doubt. If he is not, therefore, as well adapted for the uses of the range to-day as some other breeds, and entire honesty compels me to say that he does not seem to be, I have faith that you will make him so. I know of your earnestness, I know of your ability, and am aware of what you have already accomplished, and entrust his future use on the range to you, knowing that in the end I shall not be disappointed.

It would not be proper to close without some reference to the success in Australia. There are several experiments in sheep breeding which have been made in Victoria within the last ten or a dozen years, that go to show that where there is even a slight preponderance of one line of blood on one side, a surprisingly even type of sheep can be bred. The Messrs. Dennis, of Birregurra, have surprised many old breeders with the results they have obtained in this way. They have, I understand, two flocks, the one near Birregurra, and the other near Mortlake; one started by putting pure Merino rams to three-quarter bred Lincoln ewes, and the other by adding a second strain of Merino blood to the progeny of the three-quarter bred Lincoln ewe and the Merino ram. About six years ago Mr. Richard Dennis was thinking of putting a Merino ram to some of his ewes, with a view of getting them a little more even in type, but he did not carry out his intention, and instead put a Merino ram to some of the best three-quarter bred Lincoln ewes he could find, with the result that he had a greater number of culs in the progeny than in the progeny of his own sheep which he had been breeding in and in for years. Another instance has more recently been brought under my notice. Mr. H. H. Wettenhall, of Carr's Plains, put pure Lincoln rams to some of his best stud Merino ewes. To the half breeds he again put pure Merino rams, and then bred in from the progeny. He has informed me that he is perfectly delighted with the result. The sheep thus obtained are densely covered with wool of a splendid character and staple, and the percentage of culs is less than in the original Merinos he started from. This is, I think, the fairest experiment that has yet been made.

Unfortunately many people seem to think that any sort of a Merino ewe is good enough to put to a long-wooled ram. They put their best ewes to their Merino rams. Then they buy some indifferent long-wooled rams cheap, put them to their cull Merino ewes and compare the progeny of the two lots, of course, to the disadvantage of the cross-breeds.

Now, let me cite to you a few instances of success which have come to my personal knowledge. You, doubtless, have seen in the papers, flattering reports of the success with the Lincolns on the ranges of Argentina, Australia, and New Zealand, as well as many other countries, but let us take up the success on the ranges of our own country first, because naturally my thoughts turn to America first.

In some parts of the West the demand for Lincolns has been quite extensive during the past fall, in fact, the big rangy Lincoln top for the Western Merino ewes has taken preference over all other breeds, and the call was for more rams than could be readily supplied.

J. M. Wilson, of Wyoming, has had

very good success with Lincolns and purchased several car loads of yearlings this fall, because his company had made a thorough test of the Lincoln-Merino cross, and it has given the longest and strongest cross-bred staple and the largest lamb of any experiment yet tried in their large flock of heavy fleeced Merino ewes. Mr. Wilson says that he has all along felt the necessity for a large, heavy, rustling breed for improving the mutton carcass of the range Merinos and that the Lincolns are going to give all the other heavy breeds a race for honors.

In Montana, lambs of the Lincoln-Merino ewes have been produced that weighed 75 pounds on the 30th day of June.

In Idaho, one prominent breeder informs me, that after extensive experiments he has proven to his own satisfaction that the Lincoln-Merino cross will outweigh the Oxford-Merino cross by four pounds and shear a heavier fleece of wool, and that he often tops the market. Up to 1880, the sheep of Argentina were almost entirely Merinos, but a rapid change has taken place since 1894, it being stated by Mr. Peel, of the British legation at Buenos Ayres, that as many as thirty million sheep have been converted from Merino into Lincoln since then. What he means, no doubt is, that they show more Lincoln character. But the cross of Lincoln-Merino is better than pure Lincoln would be, as the joints would possess more lean flesh.

FLOCKS AND FLEECES.

Thousands of sheep are reported to have perished from cold and starvation in western Wyoming. The cold has been intense for sixty days, and old-timers say that it is the hardest winter they have seen for the last nineteen years. Carbon county has 500,000 sheep, and the flockmasters there fear the loss will amount to 25 per cent.

Gary Bros. & Sheldon, who are among our oldest shippers of live stock from Eaton Rapids, Mich., and know how to get their stock up in the finest shape, were on the market to-day with a prime load of 87-pound lambs, that sold at \$6.10 per cwt., the top price of the day.—Buffalo Mercantile Review. We publish the above as a pointer to feeders. On the day this lot was sold not another one brought over \$6. It was their fine quality and finish, and the weights seemed to hit the market just right. We note that Michigan lambs top the market nearly every day, and that it is the medium weight high quality lambs that are at the top.

Frank D. Barton, the well known breeder of Merino sheep, died at his home in Waltham, Vt., on January 24. He was 64 years of age. The Barton flock of Merinos was at one time in the very front rank, and sold at extremely high prices. Australian breeders paid him very long prices, as did American breeders. They had an established type of form and fleece that gave them great individuality. They belonged to the Atwood family. The points of excellence he bred for were fineness and density of fleece, and evenness in the distribution of the oil. These he attained in an eminent degree, but at some sacrifice in size and constitution. The form was good, but not large enough, and the intense breeding seemed to weaken their constitution. However, when bred to flocks lacking in the points referred to, but of a robust hardy type, the results were generally very satisfactory. Mr. Barton had one of the largest farms in Vermont, about

1,000 acres, with fine buildings and pleasant surroundings.

The wool clip of the United Kingdom in 1897 was, says the Bradford Observer, 138,657,440 lbs., a greater quantity than that of either of the two preceding years. But the exports were much heavier, amounting to about 30,000,000 lbs., or more than double the quantity sent out of the country in 1896, and leaving only about 100,657,000 lbs. for home consumption. Although this is the smallest quantity of native wool left for home consumption recorded since statistics were collected, the average price has been lower than in any previous year in modern times, except 1892. The price of London hog wool, for example, fell from 10½d a pound in January, to 9½d in December, and the mean price of twelve months was only 9¼d, as compared with 12½d for 1896, with 12¾d for 1895, and with the minimum of 9d for 1892. Although imports of foreign and Colonial wool were heavy, exports were correspondingly large, and the net imports of eleven months were over seven million pounds less than those of 1896.



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SHORTHORNS and POLLED DURHAMS. Four young bulls for sale. Correspondence solicited. M. B. FREEMAN & SON, Flushing, Mich.

A LARGE and extra fine pure-bred Holstein bull calf, 2 weeks old, from one of my very best cows, whose dam was one of my first prize winners at the "World's Fair," Chicago, 1893. "The bull is half the herd." Price reasonable. B. F. THOMPSON, Detroit, Mich.

SHEEP.

FOR SALE. 20 young thoroughbred unregistered Shrop. ewes; one thoroughbred Red Poll bull. FRANK H. LEMEN, Whitmore Lake, Mich.

PURE Bred Hampshire Ewes from imp. stock at a bargain for the next 60 days. Inspection invited. J. H. TAFT, Mendon, St. Joe Co., Mich.

REGISTERED RAMS AND EWES FOR SALE at Rambouillet, U. S. A. THOS. WYCKOFF, importer and breeder, Orchard Lake, Mich.

SHROPSHIRE HALL STOCK FARM.—Special prices on 75 choice registered ewes, all bred to imported rams and 30 choice ewe lambs, to make room for this season's second importation, to arrive in January. Also a few choice Polands and Berkshire sows and boars. State agent for the Black Diamond Sheep Dip, the best dip on the market to-day. I have tried them all. L. S. DUNHAM, Concord, Mich.

SHROP. EWES bred to high class rams. Better than Klondyke gold. Write at once for price list. A. H. FOSTER, Allegan, Mich.

THOMPSON'S WHEEL BARROW GRASS SEEDER

Runs Easy, Lasts Always And a boy can sow 30 acres of land in one day. Sows all Grass Seeds, all Clovers, Alfalfa, Flax, Red Top, Orchard Grass, Millet, etc. Hopper for Wheat, Rye, Oats & Barley. No bother with stakes—just follow drill marks. Weighs 40 lbs.

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Smoky City ".....	8 to 10	1 1/2 to 2 1/2	1 1/2 to 2 1/2	15.00 "
Big Bonanza ".....	9 to 10	2 1/2 to 3 1/2	4 to 5	20.00 "
Potato Special ".....	9 to 10	3 1/2 to 4 1/2	6 to 7	23.00 "
Tobacco Special ".....	11 to 12	3 to 4	4 to 5	27.00 "
Bone and Meat.....	13 to 15	4 to 5	18.00 "

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HAWKEYE GRUB AND STUMP MACHINE

Pulls an ordinary grub in 1 1/2 minutes. Makes a Clean Sweep of 2 Acres at a Sitting. A man, a boy and a horse can operate it. No heavy chains or rods to handle. You can not longer afford to pay taxes on unproductive timber land. Illustrated catalogue FREE, giving prices, terms and testimonials, also full information concerning our I. I. L. GRUBBER, IRON GIANT GRUB AND STUMP MACHINE, 2-HORSE HAWKEYE and other appliances for clearing timber land. (Address: Milne Bros., for Stetland Pony Catalogue) Milne Mfg. Co. 799 8th St. Monmouth, Ill.

Pulls either..... Standing Timber or Stumps.

Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to

KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - MICH.

News from Michigan Granges is especially solicited.

GRANGE NEWS.

TO CORRESPONDENTS.

(1) We want to hear from each Grange in Michigan at least once each month, oftener if possible.

(2) We want news about your Grange which will show your progress and work.

(3) We want the ideas, opinions and conclusions of your members on all of the important questions discussed.

(4) Bore it down.

(5) Mail at latest by Saturday noon, to insure insertion the following week.

DEWITT GRANGE

voted to have a one-day Farmers' Institute in the near future.

Clinton Co. MRS. C. L. PEARCE.

HURON COUNTY POMONA GRANGE will meet with Hope Grange March 3. The lecturer is preparing a good program. We desire to see as many Patrons present as possible.

MRS. GEO. PANGMAN, Sec.

STEBBINS GRANGE, No. 709, Jan. 29, initiated one member and served the usual feast. Master exemplified the unwritten work. A short program was ably rendered.

REPORTER.

CLAYTON GRANGE, No. 604. Feb. 5, officers were installed by Sister and Bro. A. B. Knight. Had a good attendance and good time.

Genesee Co. GEORGE W. BLOSS.

VERONA MILLS GRANGE, No. 607. Feb. 5 we had a good attendance in spite of the drifts and cold. At the literary program we had a question box, and also each member gave "One Day's Experience."

MRS. LAURA HUNT.

INLAND GRANGE, No. 503, meets the first and third Saturday evenings of the month. February 5, the topic, "Best means of fertilizing," was discussed. Our members are full of determination. The lecturer's hour is always lively.

J. W. EDWARDS.

RAVENNA GRANGE, No. 373, installed officers Jan. 15, and conferred fourth degree on two. Light refreshments followed. Feb. 5, the lecturer's hour was occupied in general drill on unwritten work.

JENNIE BATSEN.

HELENA GRANGE, No. 676. Jan. 29, the purchasing agent was instructed to send for ten bushels of clover seed, also for badges for all of the officers. There was a good attendance in spite of bad roads.

MRS. FRANK M'FARREN.

NORTH ADRIAN GRANGE, No. 721, on Feb. 4, conferred first two degrees on two candidates. The drama, "A Confederate Spy," was presented by the Grange, and \$45 was realized from it.

MRS. H. R. LADD.

DECATUR GRANGE met Friday, Feb. 5, and discussed "The advancement of woman in the past twenty-five years." Five applications for membership received, and three reinstated.

H. L. SUTTON.

ASH CENTER GRANGE, No. 471, dedicated their hall Feb. 1 in the afternoon. A goodly number attended, about 200 being present. A fine program was rendered, followed by a talk from Master Geo. B. Horton.

E. H. PARISH, Cor.

WHEATLAND GRANGE, No. 273. Although we cannot give as good a report as did the correspondent from Fruit Ridge Grange, either in numbers or financially, we still hold meetings once in two weeks and expect more members soon.

COR.

discussed free rural mail delivery at the last meeting. The majority of our Grange being retired farmers, the question was decided in the negative, although it was stated that while not desirable, it was surely coming.

MRS. B. G. HOIG.

BURNS GRANGE elected as master, N. K. Potter; secretary, M. A. Wilcox; lecturer, E. S. Lyman. We meet every two weeks at the homes of Patrons in the afternoons. First meeting this year was at the home of Bro. E. O. Byam; a very good meeting and a large number present.

M. A. WILCOX.

PENINSULA GRANGE, No. 706.

meets regularly every two weeks. Installation of officers was conducted by Bro. E. B. Ward, of Charlevoix, who also gave a good Grange address. Although one of the youngest Granges in the county, it is right to the front. We have built a new hall and have forty-one members in good standing.

Charlevoix Co. L. J. L.

FLAT ROCK GRANGE, No. 636. Bro. and Sister Tuttle, of Plymouth, installed our officers Jan. 19. Oyster supper followed. They also gave an interesting report of State Grange. Principal officers elected were: Master, F. Peters; overseer, G. Wagar; lecturer, W. J. Campbell; secretary, Mrs. F. Peters. We meet the first and third weeks of the month.

Wayne Co. W. J. CAMPBELL.

BELLEVILLE GRANGE, once of great influence in Grange work, but for some years past dormant, has reorganized with a strong charter list of good and enthusiastic workers. The master is J. R. Brayton; secretary, William H. Loop; lecturer, Edward Edwards.

Wayne Co. E. A. C.

NORTH BRANCH GRANGE, No. 607, Feb. 5, had a large attendance; four were given first two degrees. We shall make some improvements on our hall, putting a wall under it and plastering the lower portion. At present we are meeting every Saturday evening.

Lapeer Co. H. S. BRADSHAW.

FRUIT RIDGE GRANGE, No. 276, is having a little boom in the way of membership; degree work is therefore the general order of the meetings. Feb. 5, we gave the use of our lower hall and stage to North Adrian Grange for a dramatic entertainment, the proceeds to aid them in finishing and furnishing their new hall.

Lenawee Co. J. W. A.

STEBBINS GRANGE, No. 709, discussed "Transportation Rates," and it was unanimously decided that the shares are not divided as they should be between carrier and producer. That the poor man should travel as cheaply as the rich. Reduced rates of postage was used as a comparison.

Antrim Co. M. E. N.

SOUTH BOSTON GRANGE, No. 175, held regular meeting Feb. 5. First and second degrees given to twelve candidates. We voted to have Mr. Sprague, the impersonator, give us an entertainment at our hall this coming Saturday evening for the benefit of the Grange.

John S. TAYLOR, Cor.

CHARLOTTE GRANGE, No. 67, has just suffered the loss of one of its most earnest workers, Bro. Dennis Eddy, who died Jan. 24. He will be sadly missed by all of the members.

At our next meeting we shall have a paper on "What books shall we read?"

Eaton Co. CHARLES HOFFNER.

ESSEX GRANGE held a small meeting Feb. 3. Severe cold and dangerous drifts made it almost impossible to get out. Five applications for membership were received. A successful meeting held under such conditions makes us feel encouraged as to the interest in our work on the part of members.

Clinton Co. M. S. MOSS.

GROVE GRANGE, No. 528. At the last meeting Bro. A. W. Campfield exemplified the unwritten work, and gave a short report of State Grange. We have purchased binding twine for several years, and find the plan a great saving. We hope to have a traveling library after a time. We meet on each Friday after the new and full moon.

St. Clair Co. MRS. C. A. LEPIEN.

HESPERIA GRANGE. Jan. 29 the questions discussed were: "Uniformity of Text Books" and "Free Text Books." The majority believe uniformity in text books desirable, but not free text books. It was urged that the State furnish the books at cost. Grange then took up the subject, "Good Literature for Children." This was the most important question on the program and was ably discussed.

Newaygo Co. COR.

OTTAWA GRANGE, No. 30, Friday, Feb. 5, decided to have a contest between the brothers and sisters, the defeated side to furnish dinner. "How shall we make home happy?" was the subject of an excellent paper by Sister Martin, in which she said, "There are two kinds of bears—bear and forbear. We should never forget the little courtesies of life." The next meeting will be open.

Ottawa Co. COR.

NEWAYGO COUNTY POMONA. Newaygo County Pomona, No. 11, will meet with Fremont Grange Wednesday and Thursday, March 2 and 3;

1898. Our program consists of songs, recitations, music, and topics for discussion, some of which are of particular interest to the Patrons at this time. A full attendance is earnestly desired, that we may make the meeting interesting and profitable.

C. K.

BERRIEN CENTRE GRANGE

installed officers Jan. 1: Master, C. M. Hogue; lecturer, W. G. Armstrong; secretary, Miss Elsie Michael. Had 15 members one year ago, now have 86. Interest increasing. Are engaged in a literary contest. We entertain the children in the lower hall until program is taken up, then admit them. Bro. Mars has returned from his lecturing tour in the northern part of the State with an encouraging report.

Berrien Co. ADAH MURPHY.

HAMILTON GRANGE, No. 355. At our last meeting the question was "If we were to ask terms for Cuba what would they be?" It was decided in favor of recognizing the belligerency of the Cuban insurgents.

Our Grange hall has been insured in the Cass County Mutual, for \$400.

Harry Lee, a member of our Grange, won the oratorical contest at the Grange hall at Paw Paw, Feb. 5.

Van Buren Co. CHAS. WAGNER.

YPSILANTI GRANGE, No. 56.

It has been decided to hold a union meeting of the Granges of Washtenaw county on Saturday, Feb. 26. (Presumably with Ypsilanti Grange.—Ed.) An interesting program and good social time are promised. A circular from the American Sugar Growers' Society, opposing the annexation of Hawaii, was discussed. The sentiment of the Grange is against annexation. The subject will be taken up at the union meeting, as also that of congressional free seed distribution.

Washtenaw Co. CHARLES L. FOSTER.

SILVER LAKE GRANGE, No. 723.

Jan. 29, Bro. and Sister Saunders reported State Grange. Feb. 5, Union Grange met with us, over 100 being present. A bountiful repast and interesting program were the features.

Our Grange has passed appropriate resolutions of sympathy for the family of Sister Hattie E. Bellows, who died on Jan. 4. She leaves a husband and two little sons, who have the sincerest sympathy of all our members.

Kent Co. COR.

POTTAWATAMIE GRANGE mourns the loss of Overseer Edward Curtis, who died Jan. 15. He had been in poor health for several years, but performed his duties in a creditable manner. The Grange passed appropriate resolutions, and ordered the charter draped in mourning for thirty days.

Bro. Frank Martin reported State Grange and installed officers.

Applications are received at every meeting.

Berrien Co. MRS. W. G. EMERY.

ALUMINA GRANGE, No. 585, never loses a meeting for want of attendance. At our last meeting "Co-operation" was discussed. General opinion was that it could be made more beneficial if thoroughly practiced. We are holding Grange socials every two weeks at the home of some member with a picnic dinner, each one inviting some friend. Have a program arranged, some question is discussed and there are also readings, recitations and music.

Muskegon Co. MRS. DELL VIETS.

ALLEGAN CENTRAL GRANGE meets the first and third Wednesdays in each month. Literary meetings occur the third Wednesday and are open. We strive to make them both pleasant and profitable. The younger members constitute a social committee, and have in a pleasing manner entertained the Grange and its friends on several occasions. Our next meeting will be a parliamentary drill. It is the general verdict of our people that too little attention is given to strict parliamentary usage in the Granges.

Allegan Co. M. I. B.

ADRIAN GRANGE, No. 213, was reorganized March, 1886. Have just completed a fine hall, 24x48 ft., two stories high, at a cost of about \$700.

One year ago we numbered 72 members; last quarter we paid State dues on 116 members. We have 16 policies written in Patrons' Mutual Fire Insurance Co., of Lenawee county.

Jan. 7 the following officers were installed by Bro. Frank Allis, master of Madison Grange, assisted by Sister C. G. Wilcox: Master, C. G. Wilcox; overseer, Bro. Langdon; lecturer, W. F. Howell; secretary, W. R. Smith.

Lenawee Co. W. F. HOWELL.

BAINBRIDGE GRANGE, No. 80, was entertained Jan. 29 with a program by Millburg Grange, in response to one given by our Grange last fall.

It was very interesting as well as amusing. Their discussion of one-cent letter postage was very much appreciated by many who favor the plan. Five neighboring Granges were represented, namely, Pipestone, Sodus, Pearl, Twelve Corners, and Royalton. After Grange about 300 did ample justice to our supper.

Berrien Co. MRS. E. STICKNEY.

ROME GRANGE, No. 298. Last regular meeting 116 Patrons were present: Twenty-two from Cadmus, seven from West Adrian, and two from Palmyra. Rome Grange is steadily growing, as nine candidates were initiated in the third and fourth degrees, and two old members who have been absent nearly 20 years were reinstated. Brother Jacklen, our county treasurer, gave us an interesting talk on Grange work. We are preparing to build sheds at the hall.

Lenawee Co. DORA L. DOWLING, Cor.

MONITOR GRANGE, No. 553, entertained Gratiot Pomona Feb. 5. In the evening the dramatic club of Bethany Grange gave a play entitled "Dot, the Miner's Daughter." Have several being initiated. At next meeting we shall discuss the advisability of building a hall. At a recent meeting, after discussion, the majority thought that butter should be graded when placed on sale.

Gratiot Co. MRS. JENNIE MUSCOTT.

RONALD GRANGE, No. 192, at last meeting discussed co-operation. The majority thought it for the best interest of members to take advantage of the co-operative trading offered by the State Grange. The question box has been added to the lecturer's program, the questions to be along the line of Grange work, current events, and parliamentary law.

Ionia Co. COR.

LAFAYETTE GRANGE, No. 92, met at the home of Bro. and Sister McMillan, Feb. 10. Two new candidates for degrees. Traveling library has arrived, and all members are very much interested in the books. We shall have a public meeting at the Lima town hall, Feb. 22; all interested in the advancement of the farmers are cordially invited to attend. Good program.

Washtenaw Co. GEORGE T. ENGLISH.

WOODMAN GRANGE, No. 616.

At a special meeting, Jan. 28, officers were installed by Bro. Nash, master of Cheshire Grange. Much interest is being taken in our work. At present we only have a membership of twenty, but there are good prospects of a very large increase soon. Our regular meetings commenced Feb. 5, and will be held every two weeks.

Van Euren Co. J. R. DAINES.

PALMYRA GRANGE, No. 212, Feb. 3, conferred first degree on seventeen persons. After a recess and feast, Bro. George Humphrey read a paper on postal savings banks. Nearly all present were in favor of them. The sugar beet was discussed by Bro. Will Baldwin and others. It was thought by all that this industry opens a new avenue of profitable work for the farmers of this section. Experiments show that our soil and climate are unsurpassed, and we are but twenty-six miles from Toledo, where a large factory is to be located.

Lenawee Co. BRO. E.

BERLIN GRANGE, No. 272.

Feb. 5, discussed "Have modern inventions improved the conditions of the laboring classes?" Discussion was led by the master, and Bro. Otis spoke on the negative. One thought brought out was that "Machines that supplant human labor are detrimental to labor at first, but by cheapening the cost of production, consumption is increased, until more labor is employed than before in the manufacture of the article or product." Our Grange membership is on the increase; the outlook is better than it has been for the past year.

Ionia Co. WADE F. ALLEN.

WATSON GRANGE, No. 154.

At our last meeting "Domestic economy" was discussed, the practices of some farmers in this line being criticised by Bro. Roy Miner. He sarcastically said that "it was economy to leave the binder and mower standing in the field, because it saved building a shed; it was economy to burn green wood because you did not have to cut it a year ahead; it was economy to feed your cornstalks whole because it saved the trouble of cutting." A class of seven will be initiated at the next meeting.

Allegan Co. S. P. ALBERTSON.

WILSON GRANGE, No. 719, began the new year with an open meeting with a public installation of officers. Bro. O. H. Hammond, of

Ironton Grange, was installing officer. New officers are: Master, Bro. H. L. Willson; overseer, Bro. O. D. Smith; lecturer, Sister Rosa Shepard. Bro. and Sister Hammond reported from State Grange. At our last meeting we commenced our second contest, the master and lecturer, respectively, being the leaders. The losing side will furnish supper. We have ordered a traveling library, and taken steps toward building a hall.

Charlevoix Co. J. A. NEWVILLE.
BENGAL GRANGE, NO. 225.

meets every Saturday evening. We are making special efforts to encourage Grange work in all lines; have eighty-five members with an average attendance this year of fifty. Are having a very successful contest between the sisters and brothers. At last meeting seven took the third and fourth degrees; a feast followed. We have re-instated a great many old members this year. Bro. Delbert Mosher has exemplified the unwritten work, and also reports from State Grange.

Clinton Co. CORA HILL.
WESTERN POMONA GRANGE

held their annual meeting at Tallmadge Grange hall, Jan. 27 and 28. Nearly all Granges within the jurisdiction were represented. The first day they met in open session, and were joined by friends not members of the Order, also by brothers and sisters from neighboring Granges, about 150 in all. The afternoon was spent in disposing of the excellent subjects proposed by the lecturer, interspersed with music, singing and recitations. The evening session was devoted to the election of officers, and resulted as follows: Master, M. M. Smith; overseer, D. C. Wells; lecturer, Mrs. Austin; secretary, Bertha Smith. In the forenoon of the second day Bro. M. S. Smith installed the officers, and Subordinate Granges submitted their reports. After some further work of the Order the meeting adjourned to meet with Olive Center Grange in May.

MAE S. WOODARD.
IRONTON GRANGE, NO. 707.

is once more in good working order. Installed officers—most all new. Reports all given, and very satisfactory.

Our traveling library came in due time, and all are pleased with selections. There seems to be food to suit different tastes.

Lecturer arranged a debate at our last meeting. Subjects mentioned: "Resolved, that education does more for the cause of temperance than legislation." "Resolved, that water is more destructive than fire." We chose the latter. It was decided in favor of the negative.

Last report from Ironton was in error in regard to master; it should have read Master of Charlevoix Pomona Grange, E. B. Ward.

Charlevoix Co. HATTIE C. ALLEN, Cor.

NOTES FROM THE FIELD.

Jason Woodman, lecturer of the State Grange, is in Osceola and adjoining counties in the interest of Grange work.

Worthy overseer of State Grange, E. B. Ward, is commissioned by the National Grange to organize Granges in Eastern Michigan in counties where there are no local deputies.

Several county deputies report good prospects of new and reorganized Granges.

Geo. B. Horton, master of the State Grange, spent the week of February 7th with Deputy J. B. Mann, in Cass county.

Sugartown Grange was organized in Seneca township, Lenawee county, on evening of February 5th, with a large charter list.

A new Grange hall was dedicated in Ash township, Monroe county, on Tuesday, February 1.

KENT CO. GRANGE.

A special meeting was held at South Lowell Grange hall, Feb. 2. Owing to severe weather only one session was held. In his welcome Bro. Lee Skidmore, master of South Lowell Grange, said he thought every farmer should be interested in the Grange and should be a member of the Order.

Discussion on "How can the roads in this section be improved without greatly increasing the rate of taxation?" was led by Bro. Graham. From this discussion the following thoughts were gleaned: "It is a science to build a good road, so let the farmers take more pains to elect pathmasters who are competent and who will do good work. Then let each district make a little strip of good road each year, and soon the road will all be good." "Too many of the farmers when doing their road work apparently try to see how little work they can do and still put in their time; they are too anxious to see

sundown; hence a great deal of money is lost in paying road tax by the present system. But if they would only take more interest and pride the present system would not be so bad." "One trouble with the roads to-day, they are, as a rule, turnpiked too much; and if only wide-tired wagons were used the roads would need less repairing after they were once good. If the crushed-stone roads prove a success they will be the cheapest because of the great amount of stone in this country." Some would have the road tax paid in money, while others thought that in the present hard times this would not be practicable; and if it were done there would be many dissatisfied ones who would complain that a favored few were getting the money.

The discussion on "The trials of a farmer's wife" was opened by Sister Graham, who thought that the wife of a farmer who owned a large farm had more trials than one who lived on a small farm, while the next sister who spoke thought vice versa. It was generally conceded that the farmer's wife had to work harder and had less leisure than any other woman. Of course it was a brother who advocated that many of the wife's trials were imaginary.

SEC.

FEBRUARY TOPICS.

SUBJECT—TRANSPORTATION.

Resolved, That inasmuch as the subject of transportation bears so directly upon the success of agriculture, we ask the Department at Washington, through Secretary Wilson, to consider the advisability and possibility of establishing a Bureau of Inquiry for the purpose of gathering such facts, figures and conditions existing in and between the different parts of our country as will demonstrate whether or not the consumers, real or would be, in one part of the country have a fair and reasonable opportunity of receiving the benefit of cheap and surplus commodities from other parts thereof, and whether or not, in a general way, the cost of transporting farm and other commodities is just, as between producer, consumer and the carrier. This to the end that if injustice exist the foundation will be laid for a remedy.

SUGGESTIONS.

The inference in regard to this resolution is that the Interstate Commerce Commission have not been called upon to make investigation in this direction, and it involves two questions: First, are freight rates in this connection unreasonable and unjust? Second, should a bureau of inquiry be instituted or the matter be placed in the hands of the Interstate Commerce Commission with directions to make such investigation and report to congress.

SUBJECT—POWERS OF THE INTER-STATE COMMERCE COMMISSION.

Resolved, That we believe the time has come when the Interstate Commerce Commission, or some other impartial or other disinterested board created by law, should be vested with full power to fix all freight and passenger rates within certain maximum and minimum rates fixed by law, as shall be just and reasonable to the people, and to the owners of railroads.

Resolved, That the Interstate Commerce law should be so amended as to give the Commission power to establish one uniform classification of freight articles and that the railroads be required to conform to such classification. These resolutions are in accord with similar resolutions passed by the National Grange at former sessions, asking Congress to pass laws enlarging the powers of the Interstate Commerce Commission.

SUGGESTIONS.

During the past few years the tendency of legislation has been towards decreasing instead of enlarging the powers of the Commission, and the decisions of the courts have also been in the same direction, and at the present time the mandatory powers of the Commission are extremely limited. The Commission is the child of the Grange, and the Grange should see to it that its strength is not impaired and its usefulness destroyed by its enemies.

Question.—Are freight and passenger rates too high at the present time?

Why have so many railroads gone into the hands of receivers during the past few years?

SUBJECT—ADULTERATION OF DRUG AND FOOD PRODUCTS.

Whereas, No more important subject presents itself for consideration than the adulteration of drug and

food products, and the extent of food adulteration is so general and so widespread in its evil effects that it is costing the people millions of dollars every year; is demoralizing honest business, upsetting legitimate trade and invading the homes of America in every section and its effects upon the health of the nation, such as to steadily undermine its life and strength; therefore, be it

Resolved, That the National Grange, Patrons of Husbandry, in thirty-first annual session assembled, hereby reaffirm its previous position on this subject, and demand of Congress the passage of laws to prevent the interstate traffic in adulterated and misbranded food and drug products.

Resolved, That the Legislative Committee of the National Grange, when

appointed, be, and are hereby, directed to send petitions to every subordinate Grange in the United States, urging upon Congress the adoption of a pure food and drug law, to be signed and returned by them to Congress.

SUGGESTIONS.

This resolution, as is stated, reaffirms former resolutions of the National Grange in regard to the same subject, and it is also in line with resolutions passed by farmers' associations of various kinds in different parts of the country. The question is a very important one to the health of the people and the business interests of the country.

Question.—What most common food products are adulterated, and how can this adulteration be detected.

ALPHA MESSER, Lect. Nat'l Grange.

HEALTHY MATERNITY.

Two Grateful Women Tell of the Help They Have Received From Mrs. Pinkham.

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The most successful tonic known to medicine for women approaching maternity is Lydia E. Pinkham's Vegetable Compound. It is a safeguard for every woman who uses it, and the fullest benefit comes from its use with Mrs. Pinkham's advice freely offered to all women. Her address is Lynn, Mass.

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"DEAR MRS. PINKHAM:—I am a great believer in your Compound. I was almost despairing of ever again being well, as I was a great sufferer, and had been for years. I suffered from womb trouble, and had terrible blind fits. After writing to you I tried your Compound. The result was astonishing. I have used it and advocated it ever since. In childbirth it is a perfect boon. I have often said that I should like to have its merits thrown on the sky with a search-light, so that all women would read, and be convinced that there is a remedy for their sufferings."

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Miscellaneous.

THE NORTH WALK MYSTERY.

BY WILL N. HARBEN.

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(Continued.)

CHAPTER XIII.

At about half after 7 o'clock that evening the figures of two aged men mounted the steps of one of the new residences in West Thirteenth street, near Eighth avenue.

Farnhall himself met them at the door.

"Come in," he said, with a laugh. "I suppose it is you, though I couldn't swear to it. I was awfully afraid you'd be late and get here after the others."

"I knew the train they'd take," answered Hendricks, and then he introduced Dr. Lampkin.

"Come right back into the dining room," said the lawyer, shaking hands with the doctor. "I shall have to leave you to yourselves, as I must look over some documents before they arrive."

"We can manage very well," replied Hendricks. "Don't let us disturb you."

"I presume if my plan succeeds that you won't object to make the arrest. I thought you would not, so I did not inform the police."

"It would be a genuine pleasure," answered Hendricks; "but, as I told you the other day, I don't believe you can succeed."

Farnhall looked a little crestfallen. "You don't think so? And in case I fail I suppose you won't let me help you in the plans you have in view."

"Sorry, but it is impossible," said the detective. "You see, we are in disguise, and it would not do to run the risk of adding another man. But I shall do all I can toward recovering the missing papers."

"I am sure of that," said Farnhall. "Well, amuse yourselves as well as you can. If I fail, I'll let you know instantly."

"Be sure to do that," cautioned Hendricks. "I want to follow them as soon as they leave the house."

Half an hour later Hendricks and Lampkin heard the front doorbell ring. The detective sprang to the door of the dining room, drew aside the curtain and peered cautiously into the hall. Voices were heard exchanging greetings, and then they ceased as the drawing room door closed.

Hendricks turned to his companion. "Good so far!" he ejaculated. "They are all here, every one of them. I was afraid some one would back out on some pretext or other."

An hour passed. Not a word was spoken by the two men. Hendricks sat at the open fire, his hands clasped over his knee. Suddenly he sprang up. They had heard the door of the drawing room open. The hall was filled with the sound of footsteps and voices. Then the front door closed, and Farnhall came into the room.

"I made an ass of myself," he said. "That fellow Ralph is a young dare-devil. He dropped on to me in a very short time and knocked my feet from under me. He offered to bet \$1,000 that I suspected one of them to be guilty of the theft, and he laughed at the idea of the papers having been stolen. He said the old man had simply mislaid them and that they would turn up all right."

Hendricks did not seem to be listening.

"Quick, doctor!" he said. "We must be after them. Good night, Farnhall. I did not think your scheme would work."

CHAPTER XIV.

When they reached the street they saw the Benton party about half a block ahead of them.

"Making for the Fourteenth street elevated station," said Hendricks. "That's all right. Kola will catch them a little farther on."

"Kola? Who's that—your East Indian pupil?"

"My teacher in some things—uncanny roles, for instance. He will take them in tow. I am sure of it, for he has never said he would do a thing and failed. There he is now."

A man dressed in the costume of the East Indies emerged from the dark doorway of an uninhabited apartment house in the middle of the block and stepped in front of the Benton party. Hendricks drew his companion into the shadow of a wall and held his breath. Kola seemed to be talking to them earnestly, and they seemed to be hesitating.

After a few moments the group mov-

ed on and Kola came toward Hendricks and Lampkin. They heard him laugh as he drew near.

"All right," he said in his strange, musical accent. "They will go as soon as I join them again. I made a pretext to leave to speak to you. Go on to my house and wait for me. I'll be there with them."

"Good," said the detective. "Glad you put on those togs. Such things work on the average American mind."

Kola touched his richly colored turban and turned and sauntered on after the group. Hendricks drew Lampkin round and hurried him toward Ninth avenue.

"I am completely at sea," remarked the doctor as they turned the corner and started up town.

The detective laughed. "It's all on the program," he said. "It would spoil your fun if I were to let you into the secret just now." Hendricks smoothed out his long beard with both hands. "Blasted hot, these things," he muttered. "I say, doctor, did you ever investigate the psychic powers of the East Indian adepts?"

"No," answered the doctor.

"Do you believe in their so-called supernatural powers?"

Dr. Lampkin reflected.

"Kola is a marvel," said Hendricks. "The other day when I decided on getting him to help me in this matter I sat down and wrote him a note telling him what I had in view. After I had finished it I laid it aside to write some other things, intending to send it by a messenger. I gave you my word that as I was going out half an hour later I met Kola at the door. His face was beaming, and the first thing he said was: 'I am ready any moment to aid you.'"

"I stared at him in surprise, and then the fellow began to blush like a school-girl."

"I forgot," he said, "that you have not yet told me, but I already knew."

"You knew that I had written you?" I asked in astonishment.

"Yes," he replied, and then he told me exactly what I had written. I asked him how he did it, but he made no reply."

"I have heard that East Indians are able to do such things," remarked Lampkin. "I am awfully glad I met him. I want to get at the truth about some of the things that I have heard of his people."

"He could lay your hypnotism in the shade," jested the detective. "He told me he could convince a whole room full of people that he had cut off his own head."

"I don't doubt it," replied the doctor. "What did he say to the Benton party?"

"Oh, he gave them some song and dance about having received some message from the stars. He'll then persuade them, through fair means or hypnotism, to come to his house on Twentieth street. He has a queer place there. He must have money. I think he owns the house. It is one of the old residences. It had been closed for ten years before he took it."

"Ah, a light breaks in on me!" cried Lampkin. "You are going to hold some sort of seance."

"Yes, a see-ance that is a see-ance," laughed Hendricks. "I would be more explicit, but I want you to see it from the standpoint of an outsider. Are you proof against hypnotism?"

"I think so."

"Well, only be sure that what you behold is not imagination," said the detective, with a knowing laugh.

CHAPTER XV.

Kola's residence was a three storied house. It was very old styled in appearance and was the only building in the block which stood back from the street. It had a garden in front protected by a massive iron fence 20 feet in height.

Hendricks unlocked a side gate, went to the door and rapped with the old fashioned knocker. Lampkin had noticed from the garden that there were no lights in any of the windows, and when the door opened on its creaking hinges the absolute darkness within was an additional surprise.

"Hello! Here we are!" said Hendricks addressing some one behind the door. "Stand here and wait for Mr. Kola. He's behind with the party. Come on, doctor." Hendricks caught the arm of his friend and drew him down what seemed to be a dark hall. As they moved along Lampkin heard the massive door close with a little puff of escaping air, and then, as all sound from the outside was instantly excluded, he knew that the doors and windows had been purposely padded.

Dr. Lampkin heard Hendricks sliding his fingers along the wall for about 20 feet. Then they paused. Hendricks took hold of the knob of a door and opened

it soundlessly, and when they had passed through it closed softly into its padded frame.

"Now we are all hunky dory," remarked Hendricks. "Stand where you are. I've got to get you into another disguise. They must not recognize us as the two old codgers they saw at Mme. Ringsley's—I mean in case a light should be struck. I don't know Kola's plan exactly."

Hendricks stooped and began to feel about on the floor. "Here we are!" he exclaimed presently. "Take off that beard and put on this cambric domino. It will be cooler."

Dr. Lampkin obeyed as well as he could in the darkness.

"Where in thunder are we?" he asked as he took off his false beard and handed it to his friend.

"In the room Kola has arranged for the manifestation. Have you got the rig on? Can you find the eye holes?"

"I'm all right and a great deal more comfortable," replied the doctor.

"Sit down here," said Hendricks. "I have picked out this place for you. You can witness not only the show, but can see the spectators. Sh! I hear something. It was a key in the door."

Lampkin heard Hendricks's feet sliding on the thick carpet as he glided away in the darkness. Then the roar of the city sounded through the house, and he knew the front door was open.

"Come in. You have nothing to fear," sounded the strange accent of the adept. "You are perfectly safe here."

"By Jove!" drawled Montcastle. "Do you expect us to go into a house as dark as a cavern with a man we never saw before?"

"You may step out if you like," answered the adept. "It is not for me to urge. The revelation is only for you. My master sent for you. I was to know you by—but I need not tell you that."

"Of course we will go, now we have gone so far as this," spoke up Stanwood. "I am not afraid. Are you, Benton?"

"No," replied Ralph's voice. "I—I was only thinking that the ladies!"

"There will be a light presently," said Kola, still in his placid monotone. "But you must decide now what you are going to do. Every minute lessens your chances of getting a strong psychic revelation."

"Come on," said Ralph. "We are ready. Dispose of us."

"I think, perhaps," began the weak voice of Allen, but the closing door interrupted it. The next minute Lampkin heard them entering the room he was in and the adept giving them seats. "Now be perfectly quiet. Speak under no circumstances," said the adept impressively. Then he raised his voice and asked:

"Is the master here?"

"He sleeps, but awaits an awakening," sounded a deep, solemn voice in the distance.

"Tell him the people holding the eternal sign of death are in the audience chamber in accordance with his desire."

"Oh, brother," began Miss Benton, but the adept leaned forward and interrupted her.

"Be quiet. You will spoil it all," he whispered.

From somewhere in the rear came a soft, mellow sound like one of the lower notes of a flute.

"It is the master's signal. He is awake," said Kola impressively. Then the house was as quiet as a tomb. A train passed on the elevated road near by. It rumbled in a far-off way, as if it were underground.

"Be still now and look into the darkness ahead of you," said Kola. "The master will not present himself to view nor speak, but he knows your desires and will give a psychic demonstration that will interest you."

When the adept ceased speaking the flute-like note sounded again, and then profound silence fell. Lampkin heard some one breathing heavily, but could not make out who it was. He felt a hand grasp his own, heard a step on the carpet and knew that Hendricks had passed him, going he knew not whither. The black robe he wore blended so thoroughly with the darkness that he had become a part of it.

The doctor heard Miss Benton cry out softly, and then he saw a square of grayish light appear in the ceiling. It grew lighter till it was exactly like a glimpse of the sky on a dark night. Now and then a star could be seen un-

der thin, filmy clouds, which seemed to be driven along by a high wind.

"Wonderful, by Jove!" exclaimed Montcastle's voice. "I have!"

Instantly the scene vanished. Only the most intense darkness remained. Kola bent toward Montcastle.

"It was because you spoke, kind sir," he said. "If you talk, the master will retire."

Silence and darkness reigned for five minutes. Then the flute note sounded, and the view of the sky returned. For awhile it was as it had been before. Then one of the stars, which had appeared so indistinct as to be unseen at times, began to blaze fiercely. Now and then it would seem to have some sort of internal eruption.

It would burn red and blue and throw off bits of fire, which floated downward and slowly expired. One of the sparks, instead of going out, grew brighter and brighter as it descended till it took the form of a letter "B" and then melted away. The next spark formed the letter "E," and the letters of fire continued to form and fall till the word "Benton" had been spelled.

(To be continued.)

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MICHIGAN DAIRYMEN'S ASSOCIATION.

(Continued from last week.)

Mr. Monrad spoke of aeration of milk as productive of development of lactic acid, and asked if this might not aid in conquering harmful germs? Prof. Vaughan said that might be the case. Mr. Monrad said he had formerly ridiculed aeration, but had been obliged to yield that opinion.

Prof. Vaughan said that at present the flavor of cheese depended on accidental conditions, but he thinks the time will come when we can make cheese with any desired flavor.

Dairy and Food Commissioner E. O. Grosvenor read a long essay on a long subject, viz.: "The enforcement of the oleo law; what it means, what it costs, what has been done, and what may be expected."

None is made in this State, so the prosecution falls on local dealers who are backed by the manufacturers. He is assured by good authority that the validity of the law turns on the use of color that makes it resemble butter. The manufacturers raised the price one-half cent a pound and prepared for the trouble. He had resolved on continuous and incessant prosecutions, and was pursuing that policy. He then gave a detailed account of that work up to the present time. He believes its work will be successfully carried out. The department needs an attorney of standing and another chemist to push its work.

Secretary Wilson said the Association fostered the formation of the department. Also, that during the last session the Association had its choice of receiving the usual \$500 aid or the passage of the anti-color law, and chose the latter.

Geo. R. Williams, of Buffalo, N. Y., gave some thoughts on "The relation of the commission merchants and the shipper." One should be sure of the standing and responsibility of a commission house before putting business in their hands. Then stock should be up to what is represented. As the position of the commission man is that of a middleman, confidence must be established and maintained on both sides.

A paper on "Lactic ferment in cheese making," by David Haven, of Hartford, was read by his son, E. A. Haven. This is a subject of recent investigation. Milk is a fertile place for the growth of bacteria; certain ones destroy others, hence it behooves us to secure those that produce favorable results. We can now purchase prepared pure culture for use—pure cultivated bacteria. Mr. Haven uses one pound of starter to 100 pounds of milk; it should be added to nearly ripe milk to overcome odors. We should use throughout the season to make cheese uniform.

Mr. Monrad thought good results could be secured by the use of milk as a starter, but lactic acid gives the much-desired uniformity. Prof. C. D. Smith thinks it is not the lactic ferment that gives flavor, but other germs that mature under the same conditions as the ferment.

Mr. Helm said the lactic ferment should not be kept in jugs; he has had it spoil.

WEDNESDAY MORNING.

C. C. Lillie, of Coopersville, was called to the chair. B. C. Strand, of Hilliards, opened the presentation of creamery topics with a paper on "How the creamery can be operated to pay the dairyman." There is more than can be put into words connected with this subject. With a complete plant and good workers and salesmen why not secure good results? Well let us take a stand by the side of the milk-wheeler, and we will smell some reasons. We must have a good basis of good dairymen. It will not do for a man to slide along in any way without a thought as to conditions and results. Fitness should be the only requirement of the milk-wheeler. He should have backbone in insisting on quality.

Buttermakers should understand mechanics and marketing and have tact in meeting patrons and customers. He should urge upon patrons the necessity of testing individual cows so as to increase the product.

Dairymen should own stock in the creamery. Hope we have weathered

most of the hard times. There is always room at the top and an open market for first-class butter. Most creameries pay from 20 to 40 per cent dividends.

H. D. Platt advocated paying a fair interest on plant, expense of operation and then dividends. Thinks many of the cream gathering plants are idle because of wrong practice in this matter.

Mr. Haven said there are about 100 creameries and 100 cheese factories in operation and about 100 creameries idle in the State.

Mr. Jones indorsed the division of net proceeds as dividends.

Mr. Childs thought the paper right in inducing patrons to furnish good milk, so as to get good results, in order to be able to pay dividends.

C. C. Lillie thought the good cow the basis of good returns. His herd averaged 5.2 per cent, and at that rate he could not afford to take the option of selling at 60 cents per 100 pounds at home or 12 cents per gallon delivered. The per cent of butter fat being questioned, several sustained it, one man saying his herd yielded 6 per cent. Mr. Lillie said his milk for October brought him 96.2-3 cents per 100 lbs., with the skim milk returned.

Prof. Smith said he had no Jerseys at the College that ten cows would average 5 per cent of butter fat; it is a good rich test.

Mr. Wm. Campbell said there is difference between being opinionated and being firm; the manager of the Ypsilanti creamery is of the latter kind.

"The farmers' side of the creamery question" was the subject assigned to Prof. C. D. Smith. He has come to think that we are not laying stress on the right part of creamery topics in the dairy schools. We have been teaching the manipulation of milk in butter-making, assuming a basis of good milk. The time has come to teach the art of caring for the dairy cow. Stock feeding and the care of stock are important factors of successful dairying. Failures rarely result from poor buttermakers or large dividends, but frequently from a limited supply of milk.

Farmers are interested along two lines: 1, the character and quality of milk; 2, freedom from harmful conditions.

The influence of the silo is extending; even the condensed milk works send out silage books. Clover hay holds the first place among foods. Care and attention are making progress. Cow comfort is the secret of economical management. In some cases this has been carried to such extremes as to induce disease. Tuberculosis, however, is not widely prevalent. Notwithstanding cold storage facilities for keeping summer products, winter dairying is the most profitable. German experiments show that fall calving gives the best and largest results.

Most dairymen are testing milk; do not rely solely on the Babcock test, but accompany it with the test of the scales.

Continuous good feeding is conducive to the best production. Fixed qualities are also desirable, as such cows not only give good products, but their calves are also good. Every farm should abound with children, chickens, milk cows and bacteria that are good.

To keep milk clean, cows must be clean; this can be done for whole herds by using good stalls, brushes and dampening udders with a sponge. Milk quickly, but clean first; carry the milk at once from the stable; strain through two or three thicknesses of cheese-cloth; use clean tinware. He is studying a plan for preliminary aeration. He wants creamery men to know how to suggest and instruct patrons in feeding and in stable management.

Mr. Campbell asked as to the accuracy of testers. Mr. Smith said the graduated bottles do vary, and the machines are inaccurate if run too slowly.

Mr. Platt asked about variations in test at different dates. Mr. Smith said there are causes at work which we cannot always ascertain; cows and whole herds do vary.

He thought dairymen should receive fair returns rather than have large dividends go to the factory.

A. C. Jones, of Middleville, read "A history of the Cold Spring creamery and what has made it a success." The investment was \$3,650, and it closed the year 1895 in arrears \$1,000. The plant was increased in 1896, horse sheds and a larger ice house erected. In 1897 it handled over 4,000,000 pounds of milk, making 230,000 pounds of butter. Its success depends on several causes. It is so far from large towns that milk can be got from all sides; it has the best water and drainage and good stor-

age. Milk handlers are under the supervision of the directors, and ten cents per 100 pounds is deducted from the patrons' account to pay them. No patron is allowed to haul milk other than his own. Milk haulers thus controlled can be a great help to the business. Good stock is made and sold mostly to one party; this is better than scattering the product. Will make for 2½ cents a pound this season. Buy coal and tubs by the carload. The secretary and treasurer settle monthly and balance their books. Statements show amount of milk, fat test, indicated butter and overplus butter.

After noon a fair audience assembled and the students of Cleary's business college, 150 strong, filed into the room, after which Governor H. S. Pingree gave an address on "Who pays the freight?" Freight should be enough to pay a fair interest on cost and expenses. Stock is largely inflated by promoters and large expenses added by combinations and rings within rings. The roads are then classed with religious and charitable institutions and exempted from taxation—except a small school tax. Every dollar of wealth in the world has come out of the earth and should belong to those who produced it, but they cannot retain it. Indirect taxes take far more than direct taxation demands. Public corporations are for public purposes and for the public good; they are given eminent domain and should be under the control of the state. The public is a partner and has certain rights. Books should be open to inspection; rates should be fixed and values should be real. The law that punishes a dairyman for watering and adulterating his milk should punish a corporate interest for similar practices.

In Illinois a cow over six months old is rated at 2,000 pounds, but in Michigan at 4,000 pounds; this militates against Michigan farmers. The Michigan Central railroad is rated at \$45,000,000, but can be entirely rebuilt for \$15,000,000. It is paying about \$3,500,000 a year in dividends. He will demonstrate the application of the law of 1891 to this road. Great responsibility rests on the attorney-general, more than on the governor or any other one man. The office is not properly appreciated. The way to reduce taxes is to make everybody pay alike. Not half the property of the State is taxed.

After a ten minutes' recess Robert

Gibbons read a paper on "Cattle on Michigan farms—do they need improving?" For 25 years he has had the opportunity of closely observing the live stock of Michigan and several neighboring states; also the foundation of breeds and lines of breeding. Twenty years ago good herds were well established, but the extension of beef production westward had made them unremunerative and they had declined. Cheese-making was established, but other dairying little done. Several breeds of dairy cattle were introduced and established, when the decline of values and close times led to careless management and mongrelization of herds. To breed up such a herd requires time and patience, but to the man without capital time gives good results and valuable experience; everyone must learn either in time or in money. There are some good herds of Jerseys, Holsteins, Guernseys and Ayrshires.

(Concluded next week.)

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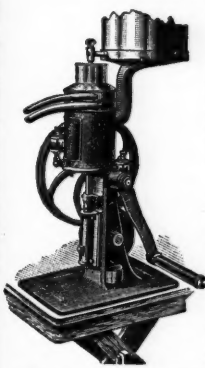
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DETROIT, SATURDAY, FEB. 19, 1898.

This paper is entered at the Detroit Postoffice as second class matter.

A FRIGHTFUL DISASTER.

The United States battleship Maine was completely wrecked and sunk in the harbor at Havana, Cuba, Tuesday night last. Latest reports place the loss of life at 258, while a number of the survivors are badly injured. The explosion occurred about 9:40 in the evening, after the crew had retired, and immediately below their quarters, hence the frightful loss of life. The cause of the explosion is yet a mystery, and will be until a thorough investigation has been had. Vessels have been dispatched to Havana with engineers and divers, and until their report is made public it is useless to theorize over the matter.

It is unfortunate that the strained relations between this government and Spain has given rise to the suspicion that the disaster was the direct result of treachery. One thing is certain: it resulted either from treachery, or carelessness on the part of those in charge of the vessel. In either case, once the responsibility is determined, those guilty should be held to a strict accountability.

The Germans are still showing a most determined disposition to bar out, or prevent the sale of American agricultural products. The latest attack is upon American hams, which are said to be painted with boracic acid to preserve them, which acid, it was averred, was a poison liable to injure the health of human beings. This led the American consul at Cologne to make some investigations regarding German cured hams, and he informs the State Department that in curing German hams 30 per cent of boracic acid, 30 per cent of nitrate of potash, and 30 per cent of common salt are used. It would appear from this statement that boracic acid on German hams is healthful and palatable, but on American hams is deleterious and absolutely poisonous, which leads us to remark, that in no country in the civilized world are meats any healthier or cleaner, or produced from better feed stuffs than those grown in the United States.

The United Kingdom and Germany are both in the market for oats, and are buying in Chicago. Look out for an advance in prices. Oats are always higher in spring, and if exporters are after them the scarcity will soon be felt.

INDIVIDUAL RIGHTS.

It looks to us as if in the struggle between great interests and organizations that the rights of the individual citizen are being ignored in a manner which bodes no good to the future welfare of the community. Certain organizations are now claiming the right to regulate the expenditures of the State and city governments so that their members will become the only beneficiaries where public moneys are to be expended. In this city labor organizations are demanding that contracts for public works of every description shall only be given individuals and firms which will agree to only employ their members. The same stand is now being taken in regard to State contracts. The awarding of a printing contract to a Battle Creek firm or corporation as the lowest bidder has been made an excuse for preferring a demand by a number of labor organizations that it be cancelled, because said firm does not employ union men. There was no claim that the firm was not capable of doing the work in an acceptable manner, or that its members were not honorable business men and good citizens. The demand was based upon the sole ground that the firm was not acceptable to organized labor.

The question of the right of the State to employ any of its citizens when work is required would seem to be very plain. But officials are now asked to deny to individuals and firms the rights generally believed to belong to every citizen, so that other individuals or members of certain organizations may profit thereby. These organizations hold that an individual outside of their organizations has no rights except to pay taxes. His right to labor is denied, while the money he pays in taxes is expended entirely for the benefit of others.

When it is remembered that three-fourths of all the people of the United States are outside of labor organizations, and that they contribute more than that amount of the taxes collected, the contention of members of trades unions is seen to be a monstrous piece of assumption without either reason or justice, and founded entirely upon the right of the strongest to dominate, control, and rob the weaker. If such assumptions are accepted by the people without protest, then a new declaration of independence will have to be written, and new State and National constitutions adopted. The declaration will have to be something like this: "We hold these truths to be self-evident, that all union men are born free and equal, and endowed by nature with certain inalienable rights; but a non-union man has no rights a union man or the government is bound to respect." With some such declaration as this people who are so unfortunate as not to belong to a trade organization will know what to expect. It seems that the United States is hereafter to be a government of trades unions, by trades unions, and for trades unions, and outsiders are expected to get off the earth.

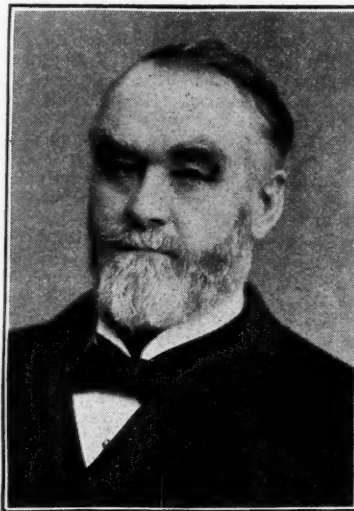
DEATH OF PROF. MANLY MILES.

A dispatch from Lansing on Tuesday last announced the death from heart failure of Dr. Manly Miles, at the age of 70 years. Dr. Miles was for years at the head of the agricultural department of the Michigan Agricultural College, and afterwards filled the same position at Amherst, Mass. He had a large acquaintance with the farmers and stock-breeders of this and other States. He has written two books on agricultural topics, one on drainage and the other on the principles of breeding. Both are accepted authorities on the subjects treated, and the one on stock-breeding is more frequently quoted than any other work on the subject published in this coun-

try. For some years past Dr. Miles has confined his writings to scientific subjects, and was a regular contributor to several scientific journals. He corresponded freely with The Farmer until his health became impaired, and his contributions were appreciated by the studious and thoughtful farmers and breeders who were anxious to go below the surface in their search for principles. As a lecturer Dr. Miles had the ability to make even a dry subject interesting, and his wonderful fund of knowledge on agricultural topics made his talks of value. A kind-hearted man, an entertaining companion and a laborious student of subjects in which he was interested, he will be greatly missed in his circle of friends and acquaintances.

HON. JOHN T. RICH.

We present our readers this week with an excellent portrait of the Hon. John T. Rich, who has been appointed Collector of Customs at the port of Detroit. The appointment was made some days ago, and has been received with general approval by all classes.



HON. JOHN T. RICH, COLLECTOR OF CUSTOMS AT DETROIT.

The record Mr. Rich has made as an official in the various public positions which he has been called upon to fill, is a guarantee that in his new place he will be found a faithful and efficient official. He is the first farmer ever selected to fill the important position of Collector, and his administration of the office will therefore be closely watched.

John Thurman Rich was born in Conneautville, Pa., April 23, 1841. His father was a native of Vermont, his family tracing back to Thomas Rich, who moved from Warwick, Mass., to Richville, in the town of Shoreham, Vt., in 1785. The family has numbered soldiers and judges among its members, but they are best known as farmers and breeders of Merino sheep, in both of which pursuits they have made a high and honorable record. The father of John T. brought his family to Michigan in 1848, locating near Lapeer, upon the farm yet owned by Mr. Rich, and which has always been his home. Mr. Rich was educated in the district school near his home, the old academy at Clarkston, Oakland Co., and the public schools of Lapeer. His occupation has always been that of a farmer, and he has given his personal attention to his farm—except when occupied by public duties.

As a public man he has served as representative in the Legislature eight years, in the State Senate two years, in Congress one term, Commissioner of Railroads four years, and Governor four years. Mr. Rich is a man of matured judgment, conservative and judicious as a public man, and democratic and genial in his personal intercourse with people. His personal integrity has never been questioned, and he has the confidence of his fellow citizens in an eminent degree.

KEEPING THE BOYS ON THE FARM.

At a number of the institutes held the past and present seasons, a number of essays have been read on this subject. The writers generally seemed to think that the boys born on a farm should remain there, and suggested various methods looking to this end. In a broad sense the farm is the safest and most pleasant place for a home, and its privileges and opportunities should be carefully considered by every young man when he reaches an age where it is necessary for him to choose some avocation or business to follow during his active life. But for a young man whose tastes and ambitions are entirely in some other direction, it would be a great mistake for him to take up farming as a business. He is sure to be a dissatisfied man, and probably a failure, because there is nothing in the business to give him that enthusiasm and steadiness of purpose which are absolutely essential to success. Nearly every young man has an inclination or taste for some certain line of work, and to attempt to start him in some other direction is nearly sure to result in disaster. To succeed in a business a person must like it well enough to study its possibilities and attend to its details. If he will do this on a farm, then he ought surely to stay there. If, however, his tastes run to mechanics, merchandizing, literature, art, etc., then, if possible, he should be allowed to follow his inclination, and helped to get a start in his chosen avocation. There will always be farmers enough to meet all contingencies. It would therefore be unwise to spoil a good mechanic, a successful merchant, teacher or lawyer, to make a poor dissatisfied farmer. When a man is working at a business he likes, and is making a fair success in it, he is in as good a position to be happy in this life as it is possible for him to be. Therefore do not condemn the young man who feels that his true place in life is not on the farm. He can probably render greater service to the community, and do better for himself than if he had remained. While we believe that the life of a farmer, taken all in all, offers more than any other avocation—Independence, health, freedom from care and temptation, and a long and useful life—yet we feel that many would never appreciate its privileges, and are therefore best away from the farm. Over his tastes and likes a man has little control. They are born with him, and generally last through life. They should always be given consideration in settling his future.

THE GOVERNOR AND TWO-CENT FARES.

The decision of the Circuit Court of this city upholding the validity of the law ordering railroads within the State to issue mileage books at the rate of two cents per mile, good for any member of a family, and if used within two years, is a substantial victory for Governor Pingree in his demand for compliance with the terms of this law. The decision of the learned judge, however, contains several points which will not, we believe, be sustained by the highest tribunal of the State; but that the substance of the decision will be upheld we fully believe. The law has been on the statute book since 1891, but its terms have never been observed by the railroads, and no one seemed to take enough interest in it to demand its enforcement, although several private individuals, at various times, have demanded mileage books in conformity with its terms. Of course the decision will be contested, and it will be many months yet before the

question at issue will be finally adjudicated by the court of last resort.

But while courts move slowly events march quickly, and before the question of two-cent fares is settled by the courts, it will have been most effectually settled by a tribunal from whose decisions there can be no appeal. It will not be long before, in many parts of this and other states, the question will not be whether we shall have two or three-cent fares, but one-cent fares will be the rule. The trolley system is going to attain great development within the next two years. The cheapness with which they can be built and operated, as compared with steam railways, will assuredly lead to their being built in all directions giving promise of business. The results attained by the lines leading out of this city point out very clearly that electricity, not steam, will control local traffic in the future. Already lines are being projected in various directions from this city, and not only Pontiac, Mt. Clemens, Dearborn and Trenton will have connection by trolley cars with Detroit, but Ypsilanti, Ann Arbor, Farmington, Utica, Romeo and Port Huron will also before next fall. To extend these lines when they reach the points named will be easily and cheaply done. From Ann Arbor to Jackson, thickly settled as the route is by a prosperous class of people, with thriving villages every few miles, offers great advantages for a trolley line. One is also projected from Battle Creek to Kalamazoo, and others at various points in the interior of the State. It looks as if the trolley line was to solve the question of cheaper and more frequent connection between interior points and commercial centers. When it does, it will bring with it one-cent fares, perhaps even less, and no other system can withstand such competition. What the railroads should do is to build and operate such lines themselves. They have the right of way, can transport passengers and freight over them under their present franchises, and therefore more cheaply than any outside company can do it. And in the struggle for business, cheapness will always win.

FARMERS' INSTITUTES.

SHIAWASSEE COUNTY.

A very successful farmers' institute was held in the beautiful stone Congregational church, Owosso, Feb. 8th and 9th, James N. McBride presiding. After prayer by Rev. Carey V. Northrop, T. B. Terry, of Hudson, O., discussed "Increased fertility by clover growing." He said clover drew nitrogen from the air and potash and phosphoric acid from below, making them available for other crops. To these valuable qualities he added its shading and mulching properties, which he made use of by not feeding off the aftergrowth. Said clover was the most valuable hay for all stock, and he had saved \$2,500 in 25 years by the difference in price between the clover hay fed his horses and that of timothy hay, besides continually adding to the fertility of what was once a very poor farm. Uses plaster, but only in the stables.

Frank Sheldon led in discussion, saying he had known the value of clover since 1838, when his father paid \$7 for half a bushel of seed. Crops in the county had declined since insects had injured clover. In years past he had kept 600 sheep on 30 acres of clover and 23 acres of corn; he had also had 50 bushels of wheat per acre. Sows early, mows two years, then puts manure on field and turns under.

After dinner C. H. H. Payne read a paper on "Cattle feeding." We should provide convenient and comfortable shelter; warm because they gain faster, and convenient to save time and labor. Foods may vary as circumstances vary. Give good care, feed liberally and regularly; this with good breeding will secure good results.

T. G. Bailey spoke on "Sheep feeding." He said that in Venice there was about \$50,000 invested in that branch of agriculture this season. One feeder had made an average gain with 48 lambs of one pound for each 5.4 pounds of mixed feed. Another had

139 lambs that had given one pound of gain for three pounds of grain and four pounds of hay. Net results would depend on cost and selling price as well as price of feeds; losses, too, vary in different years.

J. W. Hibbard in speaking of "Feeding pigs" said they eat what others leave and thrive on good feed. To-day they return more than all the other stock. Cleanliness is essential to good results; so is exercise. Discussion brought out points in regard to clover hay, silage, roots, shredded fodder, ashes, etc.

E. E. Bunting, of Rush, spoke on "Potato culture." He plows a piece the previous year, sows about two bushels of corn per acre, and just before time for frost turns it under, using a chain on his plow. Fits thoroughly, marks both ways about three feet eight inches apart, plants two pieces of two eyes each to the hill about 2½ inches deep, keeps the start of weeds, cultivates till vines die, fights bugs when they appear, stores in the field, covering with straw and dirt; when frozen some add more straw then more dirt, then when frozen cover deeply with straw.

E. O. Byam, of Bancroft, selects seed in September from healthy vines, plows clover sod early in spring and plants June 1st to 15th, with hand planter, three feet apart each way; harrows twice before up and cultivates thoroughly, breaking crust after rains; stores in round pits of 100 to 150 bushels each, leaving the top open through the fall.

T. B. Terry talked on "Increasing fertility by tillage." This is to unlock the dormant elements of plant food in the soil, and includes plowing, harrowing and rolling the seed bed, as well as afterculture of hoed crops. Rough stirring the soil, as with the two-horse cultivator, had added ten bushels of wheat per acre to his yield; it brings new particles in contact and helps liberate their elements. Soil should be deepened gradually.

Wm. Ball talked on "Bean growing." Beans are not exhaustive to the soil, and, like clover, draw nitrogen from the air. Carefully select the seed and plant from June 5th to 15th. Cultivate while dry and before they blossom. Stack out of doors in small stacks. Bean pods are valuable for sheep feeding; feed but once a day.

In the evening J. J. Whelan, of Shiawassee, read a paper on "Reforms in public affairs, and who to bring them about." He said public opinion is an unsafe guide, being created by a few interested parties and disseminated to the public. The place to secure political changes is at the primaries. The remedy lies with the common people. Our institutions rest on intelligence, and the decline of the "little red schoolhouse" is not the fault of our system of education, but of its managers. Their methods need revision and we should begin at the primary school.

N. K. Potter, of Bancroft, said reform should begin with the home and with the children. He touched on trashy books and papers, the liquor and tobacco traffic, profanity, games, misleading advertisements, and would abolish the entire fee system of litigation.

Geo. Haskell, deputy state food inspector, spoke humorously on "What I am trying to prevent you from eating." He said that food adulteration had declined from about 15 per cent to about two per cent, and that most grocers are desirous of handling pure goods, but some are knaves.

Wednesday morning J. H. Vander-vort, of Hudson, spoke of "Fruit on the farm" from the standpoint of home supply, instead of marketing. He fits the ground thoroughly, selects good strawberry plants, opens ground with a spade, an assistant flings out the roots and inserts the plant; he then withdraws the spade and treads on the ground, firming it, as he inserts the spade for the next plant. Has straight rows and always cultivates one way. Top-dress with ashes. For raspberries and blackberries, mark both ways, 3½ by 7 feet; plant red raspberries and blackberries in fall, if possible, or early in spring, and blackcaps after corn-planting. Cultivate frequently and pinch back the first and second years.

Wm. Ball spoke on "Business methods in farming." He said methods and markets had changed in forty years. Farmers are obliged to keep horses, cows, chickens and hogs, and often sheep are necessary. Never depend too much on one thing. Resolutions were unanimously passed

favoring supervisors swearing parties when taking their assessments and filing the affidavit; enforcement of the laws pertaining to Canada thistles and to the destruction of blackknot and other contagious diseases of fruit trees; and taking steps to establish and maintain a county fair. A resolution declaring "that the law should be amended so that railroad and other corporate property should be taxed equally with farm property" was discussed and adopted by a rising vote of about five to one.

P. B. Reynolds was chosen president of the next institute, Peter Patchell vice-president, and A. B. Cook secretary. Vernon was the choice for place of meeting.

After dinner Prof. V. M. Spaulding, of Ann Arbor, talked of "Plant life as controlled by man." He illustrated smuts and rusts, and described their management. He endorsed tree raising and urged a forestry commission.

E. J. Cook, president of the State Association of Farmers' Clubs, read a paper on "The farmers' club movement." Farmers need to become interested in social, intellectual and moral improvement, and to discuss practices. The farmers' club gives them the opportunity, and has accomplished much. The Grange is a strong ally and has shown its influence in legislative halls. An indispensable aid is The Michigan Farmer, which every farmer should take, and every club worker read.

In the evening G. W. Watkins gave a short talk on the Shetland Isles and Shetland ponies, after which President J. L. Snyder gave an "Illustrated trip to the Agricultural College." Prof. V. C. Vaughn, of Ann Arbor, closed the session with a talk on "Hygiene of farm life." The question box was a prolific source of interest at all sessions, and was ably handled by Secretary A. B. Cook.

The Woman's section held its session Wednesday afternoon in the lecture room of the church, about 250 being present. Mrs. Hannah Mason presided. Mrs. Ella E. Rockwood gave an address on "Making the most of ourselves." She emphasized the influence of the mother and the value of her counsel and example. Children should be at home evenings. The standard of womanhood should be set high, and personal appearance considered. Clubs and Grange meetings have been helpful. Keep abreast of the times in home reading.

Mrs. Josephine Gould said that the subject is really self-culture. The mother should keep in touch with her children as they grow older. Miss Mollie Carruthers read an excellent paper on "The ideal farm home." Miss Edith Seeley led in discussion and a question box closed the session.

B. E. B.

FAVORS THE PRESENT SYSTEM.

At the Oakland County Farmers' Institute, held at Oxford, February 2d, the following resolutions were adopted:

Resolved, That we, the officers and members of the Oakland County Institute Society, hereby express our sincere gratitude to Superintendent of Institutes Kenyon L. Butterfield, for the earnest and efficient effort put forth by him, in the interest of the series of meetings just closed in our county.

We affirm that the criticisms made in recent publications upon the superintendent emanating from this or any other county, do not reflect the true sentiment of the farmers of Oakland regarding either him or the institute system.

On the contrary, we have implicit confidence in his honesty and integrity, as well as his ability, and our sense of justice demands that, at the present juncture, an unsolicited public expression be given of our views.

From long-sustained and intimate relations we can testify that the superintendent's direction of affairs has been impartial, unselfish and exceptionally able.

He has aided largely in perfecting, and now administers, an institute system second in excellence to none in the United States, and we sincerely hope and trust that the State Board of Agriculture will continue him in his position. Be it further

Resolved, That the secretary be directed to furnish a copy of these resolutions to Supt. Butterfield; also to The Michigan Farmer for publication.

It is beginning to be believed that stocks of old corn on hand are much lighter than supposed, and there has been a strengthening of values in consequence. Corn is surely going higher.

Cancer is Curable without surgery. Testimony furnished of many reliable persons cured. Book of information, free. Address Dr. C. WEBER, Cincinnati, Ohio.

WANTED. Address of GEO. OSMER, formerly with late Geo. E. Brock, Paw Paw, Mich. DON. K. HITCHCOCK, Brimfield, Ind.

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OF THE NEW DISCOVERY IN MEDICINE.

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Dr. Wurth, in commenting on recent discoveries in medicine said: There is none which is certain to be so valuable and far reaching in benefit as Stuart's Dyspepsia Tablets, the new stomach remedy; I say far reaching, because people little realize how important a sound stomach and vigorous digestion is to every man, woman and child.

Indigestion is the starting point of consumption, heart disease, Bright's disease, diabetes, nervous prostration, liver troubles; why is this so? Simply because every nerve, muscle and tissue in our bodies is created and nourished from the food we eat. If that food is, by reason of a weak stomach, compelled to lie for hours, a sour, fermenting mass of half digested food, it poisons the blood and nervous system, creates gas which distends the stomach and bowels, causing pressure on the heart, lungs, and other organs and seriously impeding their action.

He says further, the point to direct attention is not the nerves, nor heart, nor lungs nor kidneys, but the stomach, the first cause of all the mischief.

The remedy to use for indigestion and weak stomachs is not some cathartic but a remedy which will digest the food, increase the flow of gastric juice, absorb the gases, and Stuart's Dyspepsia Tablets will accomplish exactly this result in any case of stomach trouble, because these tablets are composed of the digestive acids, aseptic pepsin, Golden Seal and Bismuth, pleasant to taste, and not being a patent medicine can be used by anyone with perfect safety. I believe Stuart's Dyspepsia Tablets will cure any form of indigestion and stomach trouble except cancer of stomach.

Full size package of Stuart's Dyspepsia Tablets are sold by druggists at 50 cents. A book on stomach diseases together with thousands of testimonials will be sent by addressing Stuart Co., Marshall, Mich.

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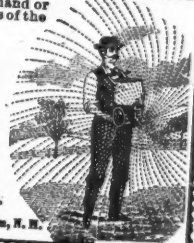
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THE A. I. ROOT CO., MEDINA, OHIO.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for The Household to Mrs. Ella E. Rockwood, Flint, Mich.

THE TRAMP.

"Shall I ever have a home again?"
A tramping vagrant cried,
Limping along with steps of pain—
(He failed to catch a ride.)
The snow was deep, the wind was cold,
Holes in his garments thin;
His coarse brogans were patched and old,
His pockets out of tin.

And bye and bye he came to town
All in this sorry plight;
He smelt the turkey roasted brown—
(It was Thanksgiving night.)
He saw the well-fed horses draw
Their loads of happy youth,
He brushed the tears with grimy paw—
"Would that they knew the truth."

He said, "I am so hungry now,
And every bone does ache,
The very meals the horse or cow
Do eat, would taste like cake.
Even the pig can have his bed,
The cat and dog their meat—
I have no place to lay my head,
And not a crust to eat."

"Once I was gay, and young, and strong,
With no more thought or care
Than now has yonder laughing throng,
Till I walked into the snare
The Devil sets for such as I.
Warm-hearted, fast and free,
The lager beer saloon, the "high,
Low, Jack," all ruined me.

"Maybe 'twas wrong to run away
From work on father's farm;
He'd never give me time to play,
Nor read, nor dress—what harm
To spend the little cash I'd got
For what I wanted most;
'Twas pride, he said, and wickedness
To want what he had not.

"And if my father loved to hoard,
He shouldn't be so mean
As to work his boy for clothes and board
Till he was past nineteen.
Now I'm so sick I cannot work,
And I must starve, or steal;
I guess I will! and then in jail
I'll get a good square meal."

E. M. V.

HOME CHATS WITH FARMERS' WIVES.

TAKING CARE OF THINGS.

There is an old saying to the effect that a woman can throw out with a spoon faster than a man can throw in with a shovel, which is supposed to mean that by wastefulness a wife may render futile all her husband's efforts to get along in the world. There are plenty of cases to substantiate this statement, for while it is true that the majority of women are saving and make the most of the resources at their command, there are many who are extremely wasteful, both as regards household supplies and the other furnishings of the home which come under their supervision.

The waste which prevails in some families is truly appalling, owing entirely to the fact that insufficient attention is given to little things in the various departments of the household.

In a previous chat we called attention to the way in which food is often wasted. Remnants of food which might be transformed into appetizing dishes are thrown away or uselessly given to a dog or cat; baking powder, spices, tea, coffee, etc., left uncovered to lose strength; brooms left standing on the brush end becoming one-sided and consequently parting with half their period of usefulness; soap left to soak away and soften in dish or wash water unnecessarily. These are but a few of the wastes which are constantly going on in some homes. But there are many other ways whereby waste occurs and watchful indeed must be the eye which sees them all.

Note the difference between two women in the matter of dress. One removes her best gown immediately she comes home, donning one more suitable for home wear. She carefully brushes the skirt, removing any traces of soil, turns it inside out and hangs it upon two hooks in the closet—two, because if hung from one only it will soon get out of shape. Loops sewn to the band at either side the front permit of thus keeping the skirt in good shape, or it may be hung upon a wire form such as are used for coats. The bodice is also brushed, and either laid away in a drawer where the sleeves may not be crushed and the garniture rumpled, or hung by a loop under either arm's eye to hooks as described for the skirt. A wire form also furnishes an excellent mode of hanging a waist. Her hat or bonnet is carefully brushed

and placed where it will be out of the way of dust and so be ready to be worn again without further attention. Her gloves will be carefully removed, stretched into shape, and laid flatly in the box where they belong. Her veil will be folded and laid away in the same manner. If smoothed crosswise each time it is removed it will not so soon get in the condition known as "stringy." Shoes will be removed at once and another pair slipped on, for nothing more quickly ruins the appearance of nice shoes than to wear them about doing our kitchen work. Some advocate stuffing nice shoes with paper when not in use, to retain the shape, but this is unnecessary. Yet they should not be thrown down in a heap upon the floor, but buttoned and kept in a suitable place.

Now a glance at the careless woman. When she returns from an outing she does not take the trouble to replace her gown with another, but decides that it is too near night to bother with it, so goes about getting supper, perhaps, without even the precaution of putting on an apron. Her hat and wrap are thrown upon a chair, her gloves in a moist, wrinkled wad reposing in the pocket of the latter. When bed time comes her dress skirt is hung by the band (just as apt to be by the center of the front as any part) to a nail and there it hangs unnoticed until she wants to wear it again. By this time there is a wrinkle down the front breadth and the whole skirt looks saggy and out of shape, to say nothing of dust and possible grease spots, accumulated from past service. It is not likely the waist has received better treatment and after a few weeks the new gown begins to lose shape and the fresh new look rapidly disappears.

Children should be taught that their belongings should be taken care of, and when the best clothes have been worn they should be required to change them as soon as home is reached and those old enough to do so should care for their own, brushing and putting away under the mother's direction. It may seem like a little thing, yet if it be followed up the habit once established will cause the child always to take good care of his clothing. The practice of allowing children to wear their best clothes the remainder of the day, after returning home will soon show its effects in a soiled look which the garment will assume, for no child can play about until bed time without soiling these more or less. Where there are a number of children the loss in this direction is considerable in the course of the year.

Much of the expense of keeping the family in shoes might be avoided were better care taken to prevent the leather from becoming soaked by going out without rubbers. Children are so apt to get the feet wet and the leather we get now-a-days does not stand this treatment very well. Rubbers are cheaper than shoes, in fact they are too cheap, they hardly pay for bringing home, and the same might be said of some shoes.

When I was a little girl father used to take sister and I to the shoemaker's and have our shoes made to order. We were carefully "measured" and the shoes made to fit our feet accordingly, with due allowance made for what they might grow. With the best of French calfskin this growth was sometimes noticeable before the shoes were worn out.

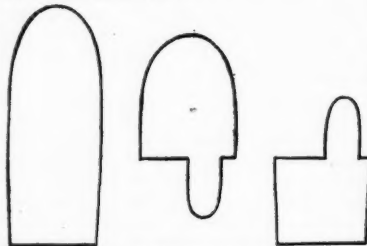
I well remember how father used to care for our shoes when we were small. We had no rubbers in those days, only the old-fashioned overshoes or "arctics" for best wear when we donned our morocco shoes. But father knew the way to preserve good leather, so our calfskin shoes were frequently treated to a good coating of melted tallow and lampblack well rubbed in by hand, and many a morning do I remember seeing the row of shoes behind the old elevated-oven cook stove in the kitchen. First came the small pair belonging to Sister Fannie, then the larger ones belonging to me, then father's every-day boots, all shining and spotlessly black. Children's shoes were made to wear in those days, and other people's too, yet even then their usefulness was prolonged by good care.

No matter what we have we should take good care of it. Many a woman who declares her best gown is not fit to be seen has only herself to blame for it. If she had taken care of it as she should it would not look as it does. It is often those who can least afford to buy new who are least careful of their belongings.

THREE-PIECE MITTEN.

I noticed Geo. G. Williams' request for a mitten pattern with the thumb and hand all in one piece. I will tell you how I have made bagging mittens for my husband that are very easy to make, and what's better, the thumb will not pull loose from the hand.

I think I can make it perfectly plain by a small sketch.



It consists of three pieces—one back and two fronts—the two fronts are sewed together by first putting the two thumbs together. Sew around them, then across the palm. Now join your front piece to back and behold! a new mitten in a very short time. Wish Geo. Williams would report if he likes this pattern, and I hope I have made it plain how to make them.

BESSIE S.

REMINISCENCES OF THE KILBOURNE HOME.

Mamma Kilbourne made just one rag doll for each of her little girls. She said now that they had seen her make one they could make more if they desired. It would help them learn to sew, and she had no time to do more. Sixty years ago dolls such as we see to-day were a rarity. Indeed, the cheapest of to-day were rare and expensive then. Mamma rolled up a piece of old white cotton cloth, about the size and shape of a small corn cob, gathered the end designated for the head and drew together with a few strong stitches; a smaller roll did duty for the arms. A dress somewhat after the Mother Hubbard style was fashioned by simply cutting armholes and drawing in the neck by a thread run around the top. The gathers were neatly "laid" by scraping each down with the needle. A belt sewed tight to the body completed the toilet; and the doll was done. Ursula and Keziah were instructed to "do dolly's sewing neatly;" their native ingenuity must supply all else.

Sister Hetty was 13. There were three elder brothers, and one younger, beside "the little girls." Hetty's dear warm heart sympathized with everybody's cares, woes and joys. She was mamma's right hand. Little enough time for recreation she so much needed. The ordinary cooking and housework was to be done over and over every day, year in and year out. The wool in summer must be "picked" preparatory to sending it to the carding machine. This was no light task and mamma and Hetty must devote every spare moment to picking out each burr and straw, or "shiv," of any sort. Each separate lock must pass under surveillance, be pulled open carefully to loosen the dust and prevent any knotiness in the forthcoming "rolls." The odor of the newly sheared wool was quite disagreeable in the sultry summer air.

The oily, gummy substance clung to the fingers tenaciously; but the necessity was embodied in the word "must," and the work was faithfully, patiently, sometimes painfully, performed. Clothing stores were not upon every corner seventy years ago. Papa Kilbourne, or one of the boys, would drive "Kate" and "Jen" with the bulky load away to Brandywine mills and the same would be returned in nice, white, even "rolls" ready for the spinning wheel. Somebody must spin these, producing fine even yarn ("warp" and "filling"), ready for the weaver. Mamma found little time to spin amid "the baking and the brewing, the mending and the sewing" so a neighbor's daughter would come to the house and spin by the day. One and one-half "run" was a day's work of "warp." A "skein" was composed of ten knots, each knot of forty threads two yards long. Two of these skeins, or twenty knots, was a "run." Not infrequently a smart spinner would exceed the rule, sometimes even double it. The "filling" required less twisting, while the "warp"—the yarn for the length of the piece of cloth—required each length to be gone over a second time, to be smoothed and harder twisted, securing greater strength and smoothness, as there is greater strain on the thread that is in

the loom, under friction from "reed" and "harness."

The hum of the spinning wheel continued for weeks. The presence of the spinners enhanced the labors of overworked mother and daughter, especially as Hetty must attend the district school, and at such time could only assist her mother morning and evening. Father and brothers would lend a helping hand as occasion required, but they knew no patent cultivators, seed sowers or binders to lighten their own labor in the field.

The home loom, constructed in the earlier years of the cottage home, had been disposed of for a price. The multiplied cares and failing health of Mrs. K— forbade her longer attempting the family weaving and this was now sent away to be done. Months wore on and "the cloth" came home from the weaver. Flannel? Yes; but not the fine, soft article we get now from the retail store. The Shaker flannel of to-day more nearly resembles the original "home-made." Just a hint, however, of the substantial fabric of the home loom.

ARUAL E. S.

ADVICE ABOUT RAG CARPET.

Dear Household Friends: My son has taken The Michigan Farmer for several years and I enjoy it, always finding many good ideas.

I noticed in a recent number one of the sisters asks some advice about making a rag carpet. I like brown for main stripe and for warp, but I also like two colors for warp.

Here is my recipe for coloring brown, and it can be relied upon: Two pounds of japonica, 12 ounces of bichromate of potash, 10 ounces of alum. This will color enough rags for 30 yards of carpet. Dip the goods in the alum water, then put it in the hot japonica water and keep hot for one hour. Take out the rags, put in a tub and pour the bichromate of potash water over them and you will have a beautiful brown. Rinse well and dry. I always sew the rags before coloring.

I think I have a beautiful fancy stripe so I will give it and hope Omega will try it and report. The center of the stripe is beaded six black and five red threads. Then four light green each side of the beaded stripe. Four dark green, then four darker green, three pink, three light red and three dark red, three of yellow, three orange, three of coppers, three shades of blue, three threads in a place, eight threads of old calico, three threads of black, and two of orange, beaded. Then comes about six inches of brown for main stripe. For warp every other thread white and every other one brown. Every 12 threads two brown ones are put in and this makes a plaided carpet.

I use bichromate of potash and sugar of lead for yellow, and by putting the yellow goods through strong, hot lime water makes a beautiful orange. I am sure if you follow these directions you will be well paid for your trouble and pleased with your carpet.

E. J. D.

A correspondent wants Bessie S. to send on her method of treating hen's feathers to make them nice and fluffy, as promised several weeks ago. Here's your chance, Bessie; one good turn deserves another you know, and several have responded to your request for suggestions about putting up cold dinners.

If the knob on the teakettle cover comes off don't send it to the tin shop, but take a wire nail, pass it through both knob and cover, then with a hammer clinch it upon the under side.

Have You Asthma or Hay-Fever?

Medical Science at last reports a positive cure for Asthma and Hay-fever in the wonderful Kola Plant, a new botanical discovery found on the Congo River, West Africa. Its cures are really marvelous. Rev. J. L. Combs, of Martinsburg, West Va., writes that it cured him of Asthma of thirty years' standing, and Hon. L. G. Clute, of Greeley, Iowa, testifies that for three years he had to sleep propped up in a chair in Hay-fever season, being unable to lie down night or day. The Kola plant cured him at once. Mr. Alfred C. Lewis, editor of the Farmer's Magazine, was also cured when he could not lie down for fear of choking, being always worse in Hay-fever season. Others of our readers give similar testimony, proving it truly a wonderful remedy. If you suffer from Asthma or Hay-fever we advise you to send your address to the Kola Importing Co., 1164 Broadway, New York, who to prove its power will send a Large Case by mail free to every reader of THE MICHIGAN FARMER who needs it. All they ask in return is that when cured yourself you will tell your neighbors about it. It costs you nothing and you should surely try it.

ATTENDING THE INSTITUTE.

It is Saturday afternoon again, and after a very busy day I find I have a few moments to indulge in a little chat with the sisters of the Household. The last days of the week have been unusually busy, owing to the fact that two days of the week were spent attending the "round-up" institute held in Bad Axe. I thought I would go the first day, as the women's section was held that afternoon, and if I found everything all right at home I would try and go again the next day. On arriving home after the evening session we found everything in apple-pie order, even though I did leave men folks to keep house.

The next morning we got up late, so Josiah volunteered to stay in the house and help me get ready. We washed the dishes, and while I made the beds he did the sweeping; then we got ready and started again, arriving in time for the morning session. I believe the farmers are realizing more and more the benefits to be derived from attending institutes. I know of a good many farmers and their wives who attended the institute this year for the first time. It seems to me we cannot help but learn something, and then it is a pleasure to meet friends from all over the county, some of whom we scarcely ever meet except at some such gathering.

Last year we had Mrs. Mayo at the women's section, this year Mrs. Kennedy, and next year we expect to meet Mrs. Rockwood. After hearing Mrs. Kennedy's paper we were somewhat surprised when she told us she had no children, for her subject, "Being a Helpmeet," brought out so many thoughts, among them, the joys and duties belonging to motherhood, training children, and so on, and while one can form an idea of how they would manage if they had children, yet it seems to me that a discussion on this subject by a childless woman cannot be appreciated in the same way as it would be if given by one who had had some experience.

The next day there was a little of everything to do at home. I found after the children's dinner had been put up there was very little left in the house to eat; so with baking, churning and putting things to rights, I managed to keep busy. But even these commonplace duties which we are obliged to perform over and over again, do not seem nearly so monotonous after a two days' rest.

L. N. H.

BISCUITS, BAKING POWDER AND BUTTERMILK.

I wonder if any other reader of the Household ever experienced the difficulty I did in learning to make nice biscuits? It had for years been my ambition to make good baking powder biscuits, but although I tried every recipe I came across, as well as those which accompany the various brands of baking powder, I met with only indifferent success. One lady, whose tea table was graced with delicious biscuits, when solicited as to the secret replied, "Plenty of baking powder; that's all the secret there is about it." But she failed to tell me what I afterwards learned was fully as important as the baking powder, that is that if the dough is the least bit too stiff with flour the biscuits will be hard in spite of all. Now I think I can turn out as good specimens as any one, and as I have received so many good things through the columns of the Household, I am ready to return the compliment by telling the discouraged young housewife my method, and if carefully followed, I feel sure she will succeed.

In the first place use good baking powder. While I shall not attempt to give any free advertising (which would not be allowed by Madam Editor, anyway), I will say that any kind which has been tried and found good in other baking, ought to be all right for biscuit. For a common square tin, holding about fifteen biscuits, one quart of flour will be sufficient. Place this in a sifter with two heaping teaspoonfuls of baking powder, (this means all that will stay on the spoon when dipped into a can of the powder), and sift into a clean mixing bowl or basin, with a level teaspoonful of salt. I have never measured the salt, and upon consideration have come to the conclusion that this may be too much. This part is not of importance, anyway, only one doesn't want to use too great a quantity. When the flour and powder are with the salt in the dish, add a piece of lard the size

of a small egg, or a rounding tablespoonful. If butter is preferred, less salt will be required. With the hands rub the shortening and flour together until they are evenly mixed, and there are no lumps left in it. Then add slowly about one pint of cold water, stirring with the fingers or with a strong spoon. The dough should be very soft, in fact quite sticky. Flour the molding board and turn out the dough; flour the rolling pin and roll quickly to about one inch thickness, or a little less. If it sticks too badly sprinkle on a little flour, but under no consideration knead the dough. Cut in small rounds, place together on a baking pan which has been lightly greased, and put at once into a hot oven—and on the top grate at that. When they begin to brown remove to the bottom of the oven to finish. The addition of a little sugar, say a tablespoonful, to the dough is liked by many persons. The same recipe may be used for muffins, with or without an egg, making the dough a little thinner and dropping into hot greased muffin pans, baking in a very hot oven.

A recipe which appeared in this paper about a year ago, called for the same amount of flour and baking powder as this, but instead of other shortening, sweet cream was used, which answers for both wetting and shortening. I have used and can recommend it, only be careful not to get the dough too stiff. It takes about one pint of cream to sufficiently wet the flour. The biscuits are truly delicious.

Now, in regard to buttermilk biscuits I do not think the certainty of the result can be quite the same as when baking powder is used, since the acidity of the buttermilk varies from time to time. But as a general thing to each quart of flour with a slightly rounded teaspoonful of soda, I use one pint of buttermilk and one-third cup of lard. Some cooks stir the soda into the sour milk, but I prefer to rub the shortening into the flour, salt and soda the same as with baking powder biscuit, then add the milk. A half teaspoonful of baking powder to each pint of buttermilk, in addition to the soda, is an improvement, or, some say cream of tartar and soda. The dough may be made a trifle firmer with these, but must not be at all hard, and speed is necessary from first to last to get them into the hot oven just as quickly as possible after they are begun. I never crowd biscuits in the tin, and generally use a cutter made from a half-pound baking powder can. All there is to do is to punch a hole in the bottom for the air to escape as it is thrust into the dough.

Hoping this may help some inexperienced cook, I will sign myself

FAN.

CONTRIBUTED RECIPES.

Pressed Meat: Chop and season with salt, pepper and celery or parsley if liked. A little bread or cracker crumbs may be added. There should be some stock put in to moisten the meat. Melt the bottom out of a large baking powder can, put on the lid and fill with the prepared meat. When cold loosen from the side of can with thin knife and it will push out as it is sliced. Stock made from an old hen is best, thickened with cornstarch before mixing. The meat should stand over night before slicing.

AUNT L.

Pumpkin Pudding: Take one pint of stewed or canned pumpkin; stir into it one pint of sweet cream and quarter of a pound of powdered white sugar. Beat six eggs very light and stir into the pumpkin and cream. Add a teaspoonful of powdered cinnamon and nutmeg mixed. Having stirred the whole well, put it into a buttered pudding dish and bake it three-quarters of an hour. When done sprinkle white sugar over the top. Serve in same dish it is baked in.

Baked Indian Pudding: Cut up one cupful of butter in two cupfuls of molasses, and warm them together till the butter is melted. Boil one quart of sweet milk and pour it scalding hot over one pint of corn meal and stir in the butter and molasses. Cover it, and let it steep about an hour. Then uncover and set it to cool. When it is cold beat five eggs very light and stir them into it, adding a tablespoonful of powdered cinnamon and nutmeg mixed and the grated peel of one lemon. Stir this very hard, put it into a well buttered dish and bake two hours. Serve it hot with lemon sauce.

Rice Pudding: Mix a quarter of a

pound of ground rice with one pint of sweet cream till it is a smooth batter. Boil three pints of good milk and when boiled stir in gradually the rice batter alternately with four ounces of butter. Keep it over the fire, stirring constantly, till the whole is well mixed and has boiled hard. Then take it from the fire and add six ounces of white sugar; stir well and set aside to cool. Beat seven eggs very light; stir them into the mixture when it is cold. Add one grated nutmeg and the juice and grated peel of one lemon. Stir and pour into a deep pudding dish and bake one hour. When taken from the oven strew powdered sugar over it. Serve with whipped cream sweetened. It may be eaten warm or cold, but it is best when cold.

Roast Rabbit: After the rabbit has been dressed and is thoroughly cleaned, soak it in cold water for an hour, changing it several times. Take out the heart and liver and scald them. Drain and dry the rabbit. Make a rich stuffing rather moist, and add to it the heart and liver minced fine. The stuffing is bread crumbs softened with butter and three beaten eggs. Season with salt, pepper and nutmeg. Stuff the body of the rabbit with this dressing and sew it up. Rub it all over with melted butter and roast it in a steady oven. For the first half hour or a little more, baste it with butter, and afterwards with sweet cream. When it is almost cooked, dredge it very lightly with flour and let it brown nicely. It will require two hours' roasting. Serve with currant jelly.

French Slaw: Take a nice fresh cabbage, wash and drain it, and cut off all the stalk. Shave down the cabbage into very small slips with a cabbage cutter or a very sharp knife, and

put it into a deep earthen dish. Cover it closely and set it on top of the stove for half an hour till it is warm all through, but do not let it boil. Then make a mixture of a quarter of a pound of butter, half a pint of warm water, a little salt and cayenne, and boil this mixture in a saucepan; after it boils, add two beaten eggs, one heaping teaspoonful of English mustard mixed in four tablespoonfuls of vinegar. Stir these well and let simmer for five minutes, and pour it over the warm cabbage. Stir well together and let stand on the stove until heated all through. Send it to the table hot.

CLARA M.

CINNAMON ROLLS.

Take a small piece of bread dough, knead in some sugar and shortening as for sweet biscuit. Roll rather thin and spread on a little butter; sprinkle with sugar and cinnamon and roll as for roll jelly cake. Slice off and place in tin to rise; when light bake.

MRS. T.

Mrs. T. asks if there is any cereal which makes a good substitute for the popular breakfast food, oatmeal. She wants to know how cooked wheat is liked, if anyone has tried it.

There are a number of other cereal preparations on the market, any of which, so far as we have tried them, are good. The preparations of wheat are fully as good as the oats. All cereals need to be thoroughly cooked to be satisfactory, and this is one reason why they are not always palatable.

A subscriber has a fine dog skin which she wishes to tan, leaving the hair on, and asks for plain instructions for doing this. Who can furnish the desired information?

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RHEUMATISM, NEURALGIA, LA GRIFFE

CURED BY "5 DROPS" is the most concentrated and powerful specific known. Free from opiates and perfectly harmless. Relief is usually felt the very first night. We have letters of grateful praise from thousands who have been cured by "5 DROPS," and who recommend it to sufferers.

HAD RHEUMATISM FOR 40 YEARS.

Swanson Rheumatic Cure Co., Chicago. Gentlemen:—I write this to inform you all how much good your "5 DROPS" is doing my husband. He is taking the second bottle now and is improving every day. When he began to take it he was suffering a great deal with Rheumatism and Heart Trouble, and weakness in his limbs, and also had stomach trouble, had no appetite, and could not walk half a mile without his legs being so stiff that when he sat down he could hardly get up again. Now I am happy to tell you he is like a new man, and can walk without any pain. If your medicine cures him it will cure anyone, for he has had Rheumatism for forty years and will be seventy years old the 10th of this month. He has gained ten pounds since he began taking your "5 DROPS." I cannot thank you enough for what your "5 DROPS" has done for him, for I don't think he would have been alive to-day if it had not been for "5 DROPS." I advise all suffering beings to be treated with your "5 DROPS," for it is a boon to mankind. (Mr. Jordan will send testimonial later on). Yours gratefully, MARY F. JORDAN, Bridgeport, Ala., January 5, 1898.

HAD RHEUMATISM OF THE HEART.

Swanson Rheumatic Cure Co., Chicago. Dear Sirs:—Enclosed please find money order, for which please send me order of "5 DROPS." We can recommend your "5 DROPS" very highly. My husband had rheumatism of the heart so bad he could not lie down in bed to sleep, and was bloated so bad he could not button any of his clothes, and before a 25 cent bottle was gone he could lie down and sleep as well as a person in perfect health, and could button his clothes as good as ever. I could tell you of different cases of headache and numbness and sleeplessness, but it speaks for itself.

Respectfully, MRS. O. S. FLOWER, Ruleton, Kansas, January 8, 1898.

"5 DROPS" cures Rheumatism, Sciatica, Neuralgia, Dyspepsia, Backache, Asthma, Hay Fever, Catarrh, Sleeplessness, Nervousness, Nervous and Neuralgic Headaches, Earache, Toothache, Heart Weakness, Croup, Swelling, La Grippe, Malaria, Creeping Numbness. For thirty days longer to enable sufferers to give "5 DROPS" at least a trial, we will send a sample bottle, prepaid by mail, for 25 cents. A sample bottle will convince you. Also, large bottles (300 doses) \$1.00, 3 bottles for \$2.50. Not sold by druggists, only by us and our agents. Agents wanted in new territory. Write us to-day.

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30 years experience enables me to scientifically treat and effectually cure Cancer and Tumors without the knife.
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4:00 pm	Montreal, New York, etc.	1:50 pm
7:20 pm	St. Clair, Romeo and Pt. Huron	6:00 pm
10:40 pm	Buffalo, Toronto and New York	6:45 am

EAST VIA WINDSOR.		
12 noon	Toronto, Buffalo and New York	1:50 pm
8:40 pm	London and Int. Stations	9:40 pm
	London and Int. Stations	9:05 am

DETROIT AND MILWAUKEE DIVISION.

6:55 am	Saginaw, G. Haven & Milwaukee	9:25 pm
9:15 am	Pontiac and Int. stations	9:00 pm
11:30 am	G. Rapids, Milwaukee & Chicago	8:55 pm
4:05 pm	Saginaw, Lansing & G. Rapids	11:50 am
6:45 pm	Pontiac & intermediate stations	8:10 am
8:30 pm	Lansing, Battle Creek & Chicago	7:05 am
10:00 pm	Grand Rapids, Grand Haven	7:05 am

*Daily except Sunday. *Daily. *Sunday only.

Legal Department.

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56 Moffat Building, Detroit.

Insurance Covers Loss, Amount Saved Not Considered.—X. Y., Vriesland, Mich.—I insure for \$300. My property is worth \$400. The property is burned. While it is burning I save \$100 worth. Can I collect the full \$300?—You can, if you can show a loss of that amount.

Addresses of Live Stock Commissioners.—N. B.—We wish to call the attention of the readers of this department to the fact that all inquiries regarding State Live Stock Commission matters should be sent to one of the following members of the Commission at the address given: J. J. Woodman, Paw Paw; H. H. Hinds, Stanton; J. H. Brown, Climax.

Real Estate Mortgage—Taxation of.—Subscriber, Leonidas, Mich.—Are mortgages assessable and taxable under the present law of Michigan? Is one obliged to give in to the supervisor the amount of money covered by mortgage?—It is the duty of the mortgagee to report any mortgages he may hold. Any real estate mortgage, for the payment and discharge of which land within this State is pledged, is taxable as an interest in land, and the tax is payable by the mortgagee.

Fence Rails—When a Part of the Realty.—Subscriber, Gratiot Co., Mich.—In selling a farm, who owns the rails that are in piles?—Rails piled up are personal property, and therefore would not pass with the land. There can be no claim that fence rails are of necessity part of the realty unless they are in a fence or strung along the line of the proposed fence, and even then they might remain personally by agreement between the parties at the time the fence was built.

Use of Barb Wire Not Illegal.—H. J., Mt. Clemens, Mich.—Is it lawful to place a barbed wire above and below a Page, or similar wire fence, on a line or road?—A legal fence must be four and one-half feet high. The statutes provide several ways in which a fence may be constructed, but the general test is that it shall be sufficient to turn stock. If your fence conforms to the legal requirements, there is no reason why you cannot put barbed wire above and below it if you wish.

Tax Paid Cannot Be Collected Again—Chattel Mortgage Good One Year from Time of Filing.—Ranchman, Gladwin, Mich.—1. Has the overseer any right to warn a taxpayer to work on the road in the same year he has worked out all of his highway labor tax?—If a man has worked the full amount of time required of him on the road he cannot be compelled to do any further work. 2. If chattel mortgage is taken, secured by note, does the mortgage hold good one year from the last payment, or is it invalid after one year from date of filing the mortgage?—The note is secured by the mortgage, not the mortgage by the note. A note is evidence of a debt for which the mortgage is given as security. The chattel mortgage will hold good for one year from time it is filed. The debt as evidenced by the note can only be wiped out by payment or the running of the statute of limitations.

Railway Taxes—Letter from Hon. Sybrant Wesselus.—Reader, White Lake, Mich.—We have the following letter from commissioner of railroads answering your questions and those of several other inquirers: As requested by your letter of Feb. 2d, I send you herewith amount of tax as assessed against the corporations doing business in Michigan for the year 1896: Express companies, \$2,742.34; insurance companies, \$212,495.30; freight, palace and sleeping cars, \$47.53; railroad companies, \$741,389.57; river improvements, \$2,282.77; plank roads, \$855.52; telephone and telegraph companies, \$42,499.37, total, \$1,302,312.40. As you are undoubtedly aware, these taxes are based upon the earnings of the companies as reported by themselves, and while we have no means of knowing the exact value of any of the properties in question, from the reports received at this office, made by the railroad companies themselves, the value of their property is about \$325,000,000, which, as you will notice, makes their tax amount to but a trifle over one-quarter of one per cent upon the value of the property as reported.

Yours truly,
SYBRANT WESSELUS,
Com. of Railroads.

The Markets.

WHEAT.

The market has been excited for the past week as the result of the struggle between Mr. Leiter and his friends, and the Chicago bears. Mr. Leiter, with his immense holdings, practically controls the price of cash wheat. He is working to push up values so as to squeeze his opponents. The other fellows are working to reduce values so as to compel Leiter to sell at a loss and enable them to make a profit on their contracts to supply wheat at a certain price. Now it is reported Mr. Leiter is to ship 4,000,000 bu to Liverpool, so as to cause a greater scarcity. The thing for farmers to do is to sell their wheat when it is being advanced, and let the Chicago gentlemen carry on their fight at their own expense. There is one very unsatisfactory feature of the situation to Michigan wheat-growers. The wheat wanted is No 2 red, but the Michigan No 2, as graded, is not good enough, and hence not a bushel of it can be shipped to Chicago, and advantage taken of the high prices during there. Thursday May wheat was advanced in Chicago to \$1.07 1/2, while here it sold at 97 1/2 c, a difference of nearly 10 cents, because Michigan wheat has been degraded by the mixers. We doubt if present prices will be long maintained without something unusual, such as a foreign war, occurs to sustain them. Cable reports showed strong markets abroad.

The following table exhibits the daily closing sales of spot wheat in this mar-

ket from January 25 to February 17, inclusive.

	No. 1 White.	No. 2 Red.	No. 3 Red.
Jan. 25.....	95	95	91
" 26.....	95 1/2	95 1/2	92
" 27.....	97	97	93 1/2
" 28.....	96 1/2	96 1/2	93 1/2
" 29.....	96	96	92 1/2
" 31.....	94 1/2	94 1/2	91 1/2
Feb. 1.....	95	95	92
" 2.....	94 1/2	94 1/2	90 1/2
" 3.....	93 1/2	93 1/2	90 1/2
" 4.....	94	94	90 1/2
" 5.....	93 1/2	93 1/2	90 1/2
" 7.....	94	94	90 1/2
" 8.....	94 1/2	94 1/2	91
" 9.....	94 1/2	94 1/2	91 1/2
" 10.....	95	95	92
" 11.....	95 1/2	95 1/2	92
" 12.....	95 1/2	95 1/2	92
" 14.....	95 1/2	95 1/2	92
" 15.....	95 1/2	95 1/2	92 1/2
" 16.....	97	97 1/2	93 1/2
" 17.....	97	97 1/2	93 1/2

The following is a record of the closing prices on the various deals in futures each day during the week:

	May.	July.
Friday.....	95 1/2	86
Saturday.....	95 1/2	85 1/2
Monday.....	95 1/2	85 1/2
Tuesday.....	96 1/2	86
Wednesday.....	97 1/2	88 1/2
Thursday.....	97 1/2	88 1/2

The visible supply of wheat on Saturday last in the United States and Canada was 35,634,000 bu, as compared with 35,022,000 bu the previous week, and 45,558,000 bu at the corresponding date last year. The decrease for the week was 588,000 bu.

The aggregate exports of flour and wheat from the United States during January were equal to 16,652,728 bu, against 11,669,884 bu during January, 1897. The aggregate exports of flour and wheat from July 1, 1897, to February 1, 1898, were equal 135,643,866 bu, against 105,895,104 bu during the corresponding time in 1896-7—an increase of 28 per cent.

Shipments of wheat from Argentine last week were 736,000 bu. The visible supply in that country last week was 2,960,000 bu., as compared with 3,418,000 bu. at same date last year.

The aggregate supplies of breadstuffs in store in Europe and abroad therefor, and in store in the United States and Canada on February 1, 1898, at the points reported were equal to 152,647,700 bu, against 157,009,400 bu on January 1, and 173,497,700 bu on February 1, 1897. The decrease during January was equal to 4,867,700 bu, against an increase of 493,600 bu during December and a decrease of 11,120,000 bu during January, 1897. The aggregate supplies are 21,456,000 bu less than reported one year ago and 50,790,000 bu less than reported two years ago.

The most recent news from Russia speaks favorably of the crops, but nothing definite will be known until April next, when they will emerge from their winter quarters.

Letter is said to have arranged for the exportation of 4,000,000 bu of wheat, which is to go forward entirely by rail.

The Liverpool Corn Trade News reports the shipments of wheat and flour from all countries as equal to 7,088,000 bu, divided as follows: No 1 America, 3,558,000 bu; Russia, 1,788,000 bu; Roumania, 214,000 bu; India, 230,000 bu; Argentine, 735,000 bu; various, 562,000 bu.

BALED HAY.

Detroit.—Best timothy, in car lots, \$8; No 2, \$7.07.50. Rye straw, \$5 per ton; oat straw, \$4; wheat straw, \$4. The advance in corn and oats, and the stronger feeling in bran and middlings, will probably strengthen the hay market.

Chicago.—The market is reported quiet and easy at the following range of prices: Choice timothy, \$8.50@9.00; No 1 timothy, \$8.00@8.50; No 2 timothy, \$7.00@7.50; choice upland prairie, \$7.50@8.00; No 1 upland prairie, \$6.50@7.00; No 1 Illinois and Indiana prairie, \$5.50@6.00; No 2 Illinois and Indiana prairie, \$5.00@5.50.

Philadelphia.—The best grades of hay are quite active and firm, but the lower grades are dull and weak. Quotations on Thursday were as follows: Timothy, choice, large bales, \$12; do No 1, large bales, \$11; do choice, small bales, \$11.50; do No 1, \$10.50@11; do No 2, \$8.50@9; do No 3, \$7.50@8; mixed, No 1, \$8.50; do No 2, \$7.50@8. Straw—No 1 straight rye, \$9; No 2 do do, \$8.50; tangled rye, \$7.07.50; wheat and oat straw, \$6.07.50.

Buffalo.—There is a fairly good demand for the better grades, but the lower grades are dull and weak. Receipts of common quite large. Quotations are as follows: Hay, timothy, baled, choice per ton, \$9.50@10.00; hay, timothy, baled, No 1, per ton, \$9.00; hay, timothy, No 2, per ton, \$7.50@8.00; hay, timothy, No 3, per ton, \$6.00@7.00; hay, clover, No 1, baled, per ton, \$5.00@6.00.

DETROIT PRODUCE MARKET.

Detroit, February 17, 1898.

Flour.—Quotations on jobbers' lots in barrels are as follows:

Straights.....	\$4.75
Clear.....	4.50
Patent Michigan.....	5.25
Low Grade.....	3.50
Rye.....	3.25
Buckwheat.....	3.75
Granulated Corn Meal.....	2.00

CORN.—The visible supply of this grain on Saturday in the United States and Canada was 38,572,000 bu, as compared with 39,505,000 bu the previous week and 24,394,000 bu at the corresponding date in 1897. Quotations on this market are as follows: No 2, 32c; No 3, 31c; No 2 yellow, 32 1/2c; No 3 yellow, 32 1/4c per bu. Market strong.

OATS.—The visible supply of this grain in the United States and Canada on Saturday last was 14,012,000 bu, as compared with 14,766,000 bu the previous week, and 13,494,000 bu at the corresponding date in 1897. Quotations are as follows: No 2 white, 31c; No 3 white, 30 1/2c per bu. Market strong.

RYE.—The visible supply of this grain in the United States and Canada on Saturday last was 3,948,000 bu as compared with 3,596,000 bu the previous week, and 3,901,000 bu at the corresponding date in 1897. Market firm and higher at 52c per bu for No 2.

BARLEY.—Quoted at 75@85c per cwt for State.

FEED.—Jobbing quotations on carload lots are as follows: Bran and coarse middlings, \$13; fine middlings, \$14; cracked

corn, \$13; coarse cornmeal, \$12; corn and oat chop, \$11 per ton.

TIMOTHY SEED.—Selling at \$1.25 per bushel.

CLOVER SEED.—Prime spot and March delivery quoted at \$3.10 per bu; No quoted at \$2.80@2.90 per bu; alsike selling at \$3@4 per bu.

BUTTER.—The market is stronger, especially on fine creamery and the best dairy. Receipts are quite large, but the bulk is only of ordinary quality. Quotations are as follows: Creamery, 18@20c; fancy dairy, 14@15c; good dairy, 12@13c; low grades, 9@10c per lb.

CHEESE.—Quoted at 10@11c for full cream. Market dull and weak.

TALLOW.—Quoted at 3 1/4@3 1/2c per lb.

RUTABAGAS.—Quoted at 25@30c per bu.

CABBAGE.—Quoted at \$3@3.50 per hundred.

POULTRY.—Dressed chickens, 7 1/2@8c; dressed geese, 8c per lb; dressed turkeys, 11@12c; dressed ducks, 8 1/2c per lb; live about 1@2c lower.

EGGS.—Quoted at 14 1/2@15c by dealers, and selling at 16@17c on the city market.

DRIED FRUITS.—Evaporated apples, 8 1/2@9c; evaporated peaches, 10@12c; dried apples, 5 1/2@6c per lb.

APPLES.—Fair grade, \$2.50@3.50; fancy fruit, \$3.75@4 per bbl.

HONEY.—Quoted at 10@13c per lb for ordinary to best.

BEANS.—Quoted at 85@88c per bu for city hand-picked. Market quiet.

POTATOES.—Quoted at 55@70c per bu in car lots, and 70@75c from store. New potatoes, \$2.50 per bu.

ONIONS.—Firm at 80@85c per bu.

DRESSED HOGS.—Quoted at \$4.25@4.50 for heavy, and \$4.75@5.00 for good light butchers.

PROVISIONS.—Market firm and unchanged. Latest quotations are as follows: Mess pork, \$10.50 per bbl; short cut mess, \$11; short clear, \$10.50; compound lard, 1/2c; family lard, 5/4c; kettle lard, 6/4c; smoked hams, 8 1/4@8 3/4c; bacon, 8 1/4@8 1/2c; shoulders, 5 1/4c; picnic hams, 5 1/4c; extra mess beef, \$8.75; plate beef, \$9.25.

HIDES.—Latest quotations are as follows: No 1 green, 8 1/2c; No 2 green, 7 1/2c; No 1 cured, 9 1/4c; No 2 cured, 8 1/4c; No 1 green calf, 13 1/2c; No 2 green calf, 12c; No 1 kip, 11c; No 2 kip, 9c; sheepskins, as to wool, 90c@1.25; shearings, 30@40c.

OILS.—Lined and lard oils are firm. Latest quotations are as follows: Raw linseed, 42c; boiled linseed, 44c per gal, less 1c for cash in ten days; extra lard oil, 42c; No 1 lard oil, 32c; water white kerosene, 8 1/4c; fancy grade, 11 1/2c; deodorized stove gasoline, 7 1/4c; turpentine, 40 1/2c per gal in bbl lots; in less quantities, 45@47c per gal.

COFFEES.—Revised quotations are as follows: Roasted Rio, ordinary, 9c, fair 11c; Santos, good 14c, choice 18c; Maracaibo, 20@25c; Java, 26@30c; Mocha, 28@32c.

HARDWARE.—Latest quotations are as follows: Wire nails, \$1.70; steel cut nails, \$1.65 per cwt, new card; axes, single bit, bronze, \$5; double bit, bronze, \$8.50; single bit, solid steel, \$6; double bit, solid steel, \$9.50 per cwt; bar iron, \$1.40; carriage bolts, 75 per cent off list; tire bolts, 70 and 10 per cent off list; painted barbed wire, \$1.70; galvanized do, \$2 per cwt; single and double strength glass, 85 and 5 per cent off new list; sheet iron, No 24, \$2.50 per cwt; galvanized, 75 and 10 per cent off list; No 9 annealed wire, \$1.50 rates.

DETROIT LIVE STOCK MARKET.

Michigan Central Stock Yards.

CATTLE.

February 11, 1898.

Receipts Friday, 454; one week ago, 196. The quality averaged better to-day. Market opened active and about steady, but at the close was rather slow and weak to 5c lower. We quote good steers, at 1,050 to 1,200 lbs, \$4.25 to \$4.50; 850 to 1,000 lbs, \$4.00 to \$4.25; balance as noted. Veal calves—receipts, 67; one week ago, 24; unchanged. There is a good demand for good milk cows and springers at above quotations.

Judson sold Caplis & Co 8 mixed butchers av 1,045 at \$3.25, and 10 do av 734 at \$3.75.

Griffin sold Marx 2 cows av 1,170 at \$3.25. Roe & Holmes sold Magee 8 cows av 970 at \$3.00, and 10 mixed butchers to Robinson av 872 at \$3.55.

Kalahan sold Regan 2 butchers av 710 at \$3.40, 2 bulls to Sullivan av 1,125 at \$3.25, 5 feeders av 830 at \$3.85, and a steer weighing 1,050 at \$4.25.

Lovell sold Fitzpatrick 8 mixed butchers av 1,106 at \$3.25.

Roberts & S sold Mich Beef Co, 10 mixed butchers av 933 at \$3.20, and a steer weighing 1,220 at \$4.50.

Fox & Bishop sold Sullivan 4 steers av 862 at \$4.00, 6 heifers to Bussell av 875 at \$4.00, and 2 do av 792.

Lomason sold Sullivan a bull weighing 1,740 at \$3.50, 1 do weighing 1,240 at \$3.30, 2 cows to Fitzpatrick av 1,230 at \$3.15, and 2 do av 1,185 at \$3.50.

Griffin sold Fitzpatrick 16 steers and heifers av 890 at \$3.90.

Carman sold Caplis & Co 2 oxen av 1,465 at \$3.50, 6 mixed butchers av 770 at \$3.50, and 3 cows av 1,006 at \$2.80.

Reason sold Fitzpatrick 2 cows av 1,130 at \$3.40, and 2 steers av 900 at \$4.00.

Armstrong sold same 25 mixed butchers av 827 at \$3.80, and 2 cows av 1,065 at \$2.25.

Bullen sold Mich Beef Co 4 mixed butchers av 1,570 at \$3.50, 2 heifers av 900 at \$3.80, 3 steers av 1,110 at \$4.50, 7 do av 926 at \$4.00, 6 mixed butchers av 1,104 at \$3.25, and a cow weighing 1,110 at \$2.50.

Roe & Holmes sold Mich Beef Co 2 bulls av 1,050 at \$3.30, 1 do weighing 1,660 at \$3.25 and 2 steers av 1,090 at \$4.00, 2 steers to Sullivan av 1,200 at \$4.35 and a bull weighing 1,530 at \$3.50.

Spicer & M sold Mansfield 22 feeders av 807 at \$3.90.

Weeks sold Caplis & Co 7 mixed butchers av 1,002 at \$3.70 and 3 do av 970 at \$3.10, also 7 steers to Sullivan av 742 at \$3.80.

Haley sold Marx 4 mixed butchers av 747 at \$3.80.

Harwood sold Cook & Fry 30 mixed butchers av 746 at \$3.75 and 3 steers to Sullivan av 1,263 at \$4.25.

Roe & Holmes sold Fitzpatrick 10 steers and heifers av 727 at \$3.85 and 3 cows av 1,066 at \$3.25, 12 steers and heifers to Mich Beef Co av 812 at \$3.90 and 5 mixed butchers av 974 at \$3.25.

Fox & Bishop sold Mich Beef Co 4 cows av 1,120 at \$3.35.

McMullen sold Sullivan a bull weighing 2,180 av \$3.25, and 4 steers, av 1,227 av \$4.25; also 2 cows to Black av 1,215 at \$3.25. Hertler sold Sullivan 4 steers av 1,057 at \$4.10 and a heifer weighing 900 at \$3.90. Hauser sold same 2 steers av 1,000 at \$4.00, 7 do av 1,264 at \$4.35, and 2 cows av 1,060 at \$2.75.

SHEEP AND LAMBS.

Receipts Friday, 723; one week ago, 1,307. Fairly active. Good, handy mixed butchers, steady. Lambs, weak to 5c lower than above quotations, or 25 to 30c lower than prices paid one week ago.

Luckey sold Mich Beef Co 43 lambs av 60 at \$5.35.

Underwood sold Mich Beef Co 107 av 97 at \$5.40.

Lomason sold Bussell 14 av 115 at \$5.45.

Judson sold Sutton 130 av 85 at \$5.00.

Sutton sold Monaghan 26 mixed av 81 at \$4.55.

Fox & Bishop sold Sutton 60 lambs av 81 at \$5.35.

Talmage sold Sutton 73 lambs av 85 at \$5.40.

Roe & Holmes sold Morey 31 lambs av 77 at \$5.35, and 16 lambs to Sutton av 84 at \$5.35, and 5 sheep av 112 at \$4.25.

Reason sold Sutton av 98 at \$5.35, and 87 sheep av 115 at \$3.85.

Roe & Holmes sold Robinson 15 lambs av 72 at \$5.25, and 4 sheep av 137 at \$3.50.

Roberts & S sold Mich Beef Co 55 lambs av 101 at \$5.40, and 18 sheep av 119 at \$3.50.

Sutton sold Fitzpatrick 26 lambs av 76 at \$5.00.

Younger & M sold Fitzpatrick 32 mixed av 98 at \$4.75.

Roe & Holmes sold Mich Beef Co 43 lambs av 93 at \$5.35, and 6 fat sheep av 120 at \$4.50.

HOGS.

Receipts Friday, 2,810; one week ago, 2,695. Quality not very good. Market fairly active; good mediums and heavy Yorkers steady; pigs and half-fed hogs dull and weak—not wanted.

Spicer & M sold Hammond, S & Co 62 av 236, 59 av 192, 56 av 221, 44 av 190, 40 av 203 at \$3.92 1/2, 20 av 114 and 18 av 112 at \$3.65. McMullen sold same 74 av 193, 44 av 213 and 54 av 192 at \$3.95.

Roe & Holmes sold same 33 av 243 at \$3.95.

Younger & M sold same 126 av 196, 29 av 222 at \$3.95 and 59 pigs av 118 at \$3.55.

Eddy sold same 122 av 216 at \$3.95 and 47 pigs av 119 at \$3.55.

Spicer & M sold same 42 av 176 at \$3.95. Parsons & H sold same 81 av 209 at \$3.95.

Lomason sold same 10 av 217 at \$3.90.

F. W. Horner sold same 96 av 195 at \$3.97 1/2.

Roe & Holmes sold same 69 av 186 and 38 av 184, 76 av 192 and 47 av 168 at \$3.90.

Fox & Bishop sold same 107 av 204 and 13 av 317 at \$3.95 and 47 pigs to Sullivan av 108 at \$3.60.

Hertler sold Parker, Webb & Co 59 av 206 at \$3.95.

Luckey sold same 39 av 206 at \$3.90.

Pakes to same, 78 av 200 at \$3.90.

Bullen to same 26 av 228, and 27 av 184 at \$3.90.

Hauser to same, 121 av 203, and 20 av 200 at \$3.97 1/2.

Warren & D to same, 54 av 189 at \$3.85.

Weeks to same 14 av 173 at \$3.90.

Frazel to same, 77 av 189 at \$3.95.

February 17, 1898.

CATTLE.

Receipts Thursday, 502, as compared to 396 one week ago. The quality averaged about the same. No heavy shippers here. Market active and strong; all sold early, closing firm. We quote good butcher steers av 955 to 1,075 lbs, \$4.12 1/2 to \$4.25; but the bulk changed hands at prices ranging from \$3.20 to \$4.00; fair to good fat cows, \$2.75 to \$3.60; bulls, good shipper, \$3.40 to \$3.60; fair to good sausage and butchers, \$2.75 to \$3.50; feeders and stockers, steady, at \$3.35 to \$4.00. Veal Calves—Receipts, 68; one week ago, 98; active at \$5.00 to \$6.40 per 100 lbs. Milk cows and springers active and higher; sales ranged from \$30.00 to \$57.50 each, mostly at \$35.00 to \$48.00.

Young sold Mich Beef Co 4 steers av 980 at \$4.10.
 Stephens sold same 10 steers av 955 at \$4.20 and 4 cows av 1,215 at \$3.50.
 Spicer & M sold Sullivan 2 steers av 590 at \$3.80, 3 cows to Fitzpatrick av 1,326 at \$3.20 and a heifer weighing 740 at \$3.50.
 Johnston sold Mich Beef Co 4 mixed butchers av 700 at \$3.00, 3 cows av 1,040 at \$3.10 and a steer to Sullivan weighing 780 at \$3.75.
 Nichols sold Mich Beef Co 16 mixed butchers av 930 at \$3.85.
 A Bray sold Magee 5 cows av 1,022 at \$2.80, and 4 steers to Sullivan av 700 at \$3.80.
 Roe & Holmes sold Robinson 2 heifers av 815 at \$4.00, 2 cows av 1,075 at \$3.25, 3 mixed butchers av 950 at \$3.00, 4 ditto av 890 at \$3.25, 2 cows av 1,055 at \$3.00, 19 steers and heifers av 900 at \$3.85, 12 ditto av 909 at \$3.90, and 2 cows av 960 at \$3.40; 12 steers to Sullivan av 680 at \$3.85, 6 ditto av 850 at \$3.85, and 1 weighing 970 at \$3.75, 7 steers to Manquin av 1,088 at \$4.25; 5 mixed butchers to Cook & Fry av 628 at \$3.70, and 5 to Kamman at \$3.15.
 Estep sold Mich Beef Co 19 steers av 976 at \$4.12, and a bull weighing 1,220 at \$3.12.
 Patrick & Pline sold Sullivan 28 steers and heifers av 862 at \$3.35.
 Bray sold Magee 6 heifers av 755 at \$3.65, and 2 steers to Sullivan av 1,060 at \$4.25.
 Burden sold Mich Beef Co 8 steers av 1,065 at \$4.10, and a cow weighing 1,120 at \$3.25.
 York sold Caplis & Co 4 steers av 952 at \$4.00, and 4 mixed butchers av 892 at \$3.25.
 Reason sold Fitzpatrick 4 steers av 965 at \$3.90, and 7 mixed butchers av 967 at \$3.20; also a bull to Mich Beef Co weighing 1,050 at \$3.00.

SHEEP AND LAMBS.

Receipts Thursday, 1,721; one week ago, 1,605. Market active and 10c higher for lambs; mixed lots steady to strong. Range of prices: Good to choice lambs, \$5.40 to \$5.60; light to good, \$4.85 to \$5.35; fair to good mixed butchers, \$3.75 to \$4.50; culls and common, \$3.00 to \$3.65.
 Robb sold Mich Beef Co 92 lambs av 92 at \$5.50.
 Taggart sold Monaghan 53 lambs av 82 at \$5.25.
 Ackley sold Young 32 lambs av 97 at \$5.55.
 Smith sold Mich Beef Co 13 mixed butchers av 105 at \$3.75, and 166 lambs av 94 at \$5.50.
 Cushman sold Sutton 210 most lambs av 82 at \$5.00.
 Dennis sold Sullivan Beef Co 29 mixed av 91 at \$4.00.
 Sharp sold Mich Beef Co 109 lambs av 81 at \$5.50, and 34 mixed av 86 at \$4.50.
 Purdy sold Mich Beef Co 23 lambs av 78 at \$5.40.
 Pinkney sold Mich Beef Co 45 lambs av 61 at \$5.00.
 Stoll sold Sutton 79 lambs av 81 at \$5.25.
 Johnston sold Hiser 10 lambs av 71 at \$5.25.
 York sold Young 19 lambs av 65 at \$5.25, and 11 mixed av 92 at \$4.00.
 Patrick sold Hammond, S & Co 14 lambs av 91 at \$5.50, and 7 culls to Hiser av 83 at \$3.40.
 Reason sold Monaghan 36 lambs av 65 at \$5.00.
 Spicer & M sold Mich Beef Co 121 lambs av 86 at \$5.55.
 Lewis sold Sutton 82 lambs av 84 at \$5.57.
 Estep sold Sutton 119 lambs av 85 at \$5.50, and 19 mixed av 107 at \$4.50.
 Sweet sold Mich Beef Co 131 lambs and yearlings av 85 at \$5.00.
 Roe & Holmes sold Sutton 40 lambs av 89 at \$5.60.
 Lewis sold Hammond, S & Co 18 mixed av 91 at \$4.50.
 Adams sold Sutton 26 lambs av 81 at \$5.50, and 9 mixed av 106 at \$4.50.
 McKeggon sold Sullivan Beef Co 35 lambs av 78 at \$5.50.
 Burden sold Sullivan Beef Co 27 mixed av 70 at \$4.25.
 Lomason sold Fitzpatrick 41 lambs av 85 at \$5.50.
 White sold Monaghan 14 mixed av 93 at \$4.50.
 Kalahan sold Fitzpatrick 23 lambs av 85 at \$5.50.

SODS

Receipts Thursday, 2,540, as compared to 2,997 one week ago. Market active and 10 to 12c higher than last Friday's closing. Range of prices: Fair to good mediums, \$3.95 to \$4.10; good yorkers, \$3.90 to \$4.00; pigs and light yorkers, \$3.60 to \$3.70; stags, 1-3 off; roughs, \$3.10 to \$3.35.
 Smith sold R S Webb 24 av 191 at \$4.00.
 Hogan sold same 47 av 168 at \$4.00.
 Clark & B sold same 18 av 218 at \$4.00.
 Stoll & C sold same 11 av 166 at \$4.00.
 Hawley sold same 15 av 135 at \$3.70.
 Pinkney sold same 89 av 164 at \$4.00.
 Reason sold same 23 av 156 at \$4.00.
 Taggart sold same 24 av 170 at \$4.05.
 Henderson sold same 69 av 149 at \$4.00.
 Roe & Holmes sold same 9 av 185 at \$4.07.
 Adams sold same 77 av 168 at \$4.07.
 Roe & Holmes sold same 68 av 172, 11 av 123 and 11 av 149 at \$4.07.
 Young sold Parker, Webb & Co 51 av 159 at \$4.00.
 Coates sold same 141 av 163 at \$4.00.
 McKeggon sold same 59 av 202 at \$4.00.
 Patrick & Pline sold same 24 av 183 at \$4.00.
 Parkes sold same 66 av 263 at \$4.05.
 Kalahan sold same 46 av 204 at \$4.00.
 White sold same 74 av 159 at \$4.00.
 Stephens sold same 34 av 183 at \$4.00.
 Nichols sold same 15 av 188 at \$3.95.
 Spicer & M sold same 55 av 208 at \$4.05, 51 av 215 and 59 av 220 at \$4.10.
 Rook sold same 26 av 241 at \$4.10.
 Spicer & M sold same 54 av 220 at \$4.10, and 70 av 169 at \$4.05.
 Lomason sold Hammond, S & Co 37 av 186 at \$4.00.
 Bergen & T sold same 79 av 205 at \$4.00.
 J. McMullen sold same 97 av 188 at \$4.00.
 Haley sold same 14 av 208 at \$4.00, and 11 pigs av 94 at \$3.65.
 Burden sold same 30 av 195 at \$4.00.
 Johnson sold same 23 av 180 at \$4.00.
 Belhimer sold same 34 av 168 at \$4.00.
 Dennis sold same 66 av 190 at \$4.00.
 Sharp sold same 11 av 250 at \$4.00.
 Peet & Horner sold same 73 av 172 at \$4.07.
 Purdy sold Sullivan 69 av 150 at \$3.90.
 Johnston sold same 23 pigs av 101 at \$3.65.
 Sharp sold same 37 av 102 at \$3.70.
 Sweet sold same 17 av 82 at \$3.70.
 Bray sold same 115 av 158 at \$4.02.
 Spicer & M sold Keener 12 av 89 at \$3.75.

OUR BUFFALO LETTER.

East Buffalo, February 17, 1898.

Cattle.—Receipts of cattle on Monday last were 6,842, as compared with 5,847 the same day the previous week, and shipments were 5,192, as compared with 5,170 for the same day the previous week. The market opened with a good demand for good to choice steers at strong to higher prices; medium and low grade steers were in large supply and ruled 50c lower; good fat cows and heifers were firm, common to fair steady; bulls were active and higher, oxen steady, and stockers and feeders generally higher under an active demand. Prime export steers sold up to \$5.30@5.35, the highest price in several weeks. Since Monday there have been some slight fluctuations in value, but as a rule the market has held steady, with prime well-finished steer cattle and feeders very firm. Quotations at the close on Wednesday were as follows: Export and shipping steers—Prime to extra choice finished steers, 1,400 to 1,475 lbs, \$5.10@5.35; prime to choice steers, 1,300 to 1,400 lbs, \$4.80@5.00; good to choice fat steers, 1,200 to 1,400 lbs, \$4.60@4.75; good to choice fat smooth steers, 1,100 to 1,200 lbs, \$4.40@4.50; green coarse and rough fat steers, 1,050 to 1,400 lbs, \$3.75@4.25. Butchers' native cattle—Fat smooth dry fed steers, 1,000 to 1,150 lbs, \$4.30@4.50; fat smooth dry fed light steers, 900 to 1,000 lbs, \$4.15@4.25; green steers thin to half fattened, 1,000 to 1,300 lbs, \$3.50@4.00; fair to good steers, 900 to 1,000 lbs, \$3.75@4.25; choice smooth fat heifers, \$4.20@4.50; fair to good fat heifers, \$3.75@4.15; light thin half-fat heifers, \$3.40@3.50; good smooth well fattened butcher cows, \$3.50@4.00; fair to good butcher cows, \$3.00@3.50; common old shelly cows, \$2.00@2.75. Native stockers, feeders, bulls and oxen—Feeding steers, good style, weight and extra quality, \$4.25@4.45; feeding steers, common to only fair quality, \$3.75@4.15; good quality yearling stock steers, \$3.90@4.15; export weight bulls, fat and smooth, \$4.00@4.25; good fat smooth butchers' bulls, \$3.50@3.90; fair to good sausage bulls, \$3.35@3.60; thin old and common bulls, \$3.00@3.25; stock bulls, \$3.00@3.50; fat smooth young oxen, to good lots fit for export, \$4.35@4.50; fair to fairly good partly fattened young oxen, \$3.50@4.25; old common and poor oxen, \$2.25@3.25.
 Thursday the market was quoted quiet and barely steady.

Sheep and Lambs.—Receipts, Monday, were 12,200, as compared with 16,400 the previous Monday; shipments were 9,600 as compared with 10,600 for the same day the previous week. There was a better market on Monday both for sheep and lambs, the latter showing an advance of 10c@15c on handy weights, and stronger on heavy. Sheep were also a shade higher while yearlings were in light supply and steady. Choice to fancy native lambs sold up to \$5.80@5.90; top handy wether yearlings, \$5.20@5.30, and choice wether sheep at \$4.75@4.90. Since Monday, while receipts have been liberal, the market has ruled steady for handy lambs, and strong to a shade higher on good handy sheep; yearlings were steady but quiet. Quotations at the close on Wednesday were as follows: Native Lambs.—Choice to fancy native lambs, 75 to 80 lbs average, \$5.30@5.90; fair to good native lambs, \$5.00@5.75; heavy lambs averaging from 105 down to 95 lbs, \$5.00@5.65; good culls and common spring lambs, \$3.25@5.40; common to fair cull lambs, \$4.90@5.15; good to choice feeding lambs, \$5.00@5.75. Yearlings.—Good to choice native handy yearlings, \$4.50@5.25; common to fairly good ewe and mixed yearlings, \$4.75@4.90. Native Sheep.—Prime to fancy wethers, \$4.85@5.10; good to fancy handy sheep, \$4.60@4.80; common to fair, \$4.15@4.50; culls and common, \$3.25@4; heavy export western fed sheep and wethers, \$4.25@4.65.
 Receipts were larger Thursday, and the market ruled weaker for lambs, but steady for handy sheep. Top lambs sold at \$5.75@5.87½; top sheep, \$4.65@4.85; heavy stock dull.

Hogs.—Receipts of hogs on Monday last were 24,890, as compared with 25,450 for the same day the previous week; and shipments were 18,240, as compared with 17,100 for the same day the previous week. The market opened active and higher, and ruled so all day, closing strong with about everything sold. The range of prices for choice light, prime, yorkers, mediums, and heavy packers, was \$4.20@4.22½, each of these grades selling on a level. Pigs sold up to \$3.80, but are not in demand. Since Monday the market has steadily improved, and on Wednesday closed with an advance of 10c@15c over Monday's prices. Quotations were as follows: Good to choice yorkers, 160 to 175 lbs, \$4.35@4.40; prime selected light yorkers, \$4.35@4.40; mixed packers' grades, \$4.35@4.37; medium weights, 220 to 240 lbs, \$4.30@4.35; roughs, common to choice, \$3.30@3.70; stags, common to choice, \$3.35@3.55; pigs, common to choice, \$4.45; skips, common to fair, \$3.15@3.75.
 Market opened stronger Thursday, but afterwards weakened and declined, closing dull. Last quotations were as follows: Yorkers, early, \$4.35; closed, \$4.27½@4.30; pigs, \$4.40@4.10; others, \$4.25@4.30; roughs, \$3.50@3.70.

CHICAGO.

Union Stock Yards, February 17, 1898.

Cattle.—Receipts for last week were 50,798 head, as compared with 44,338 the previous week and 49,531 for the corresponding week in 1897. Receipts on Monday were 2,000 larger than the previous Monday, and over 5,000 more than Monday of two weeks ago. The run was heavier than the demand required, hence trading was slow from first to last. A few extra and good steers sold early and steady as compared with last week's closing prices; the next best after the extras sold a strong 10c lower, and the kind that is always left to the last brought any price a salesman could get, in some cases 15c lower, and all were not sold. Really prime steers would have sold as high as last week, but none were offered. The best on sale brought \$5.25, and a great many sold at \$5.10@5.20. Quite a number of fair to good steers were taken by exporters at \$4.75@4.90. Fat cows and heifers held steady. Up to and including Wednesday of this week receipts have been 42,374, as compared with 36,635 for the same days last week. The increase has been largely in common plain cattle and butchers'

stock, while really prime cattle are scarce. Hence some extras have sold up to \$5.60, and on Wednesday a goodly number not first-class brought \$5.25@5.35. Large lots of the plain to good steers sold between \$4.50 and \$4.90; the lower grades of the plain beef steers were quoted 10c lower than the best prices for the week. All kinds of butchers' stock was quoted 10c@15c lower. Stockers and feeders were in good demand, and as high as \$4.55 was paid for good feeders by the car lot. Veal calves quoted at \$6.75 for the tops.
 Thursday receipts were estimated at 13,000; best grades firm, others weak but unchanged.

Sheep and Lambs.—Receipts last week were 67,992, as compared with 61,462 for the previous week, and 62,367 for the corresponding week in 1897. The market with about 7,000 less on sale than the previous week and trade ruled active. Sheep were steady to strong, and lambs fully 10c higher on the prime native sorts, \$4.50@4.75 for muttons and mixed ewes and wethers, \$4.80@5 for yearlings. Prime native market lambs sold at \$5.60@5.75; mediums, \$5.25@5.50; Mexican lambs, \$5.30; feeding lambs, \$5.25@5.30. A consignment of goats sold for market purposes at \$3.65. Up to and including Wednesday of this week receipts have been 52,378, as compared with 45,820 for the same days last week. On Wednesday trade was slow; heavy sheep were neglected and had to sell a trifle lower. The ordinary run of mutton sheep, say averages of 100 @110, and along there, sold at \$4.25@4.50, a load or so at \$4.60; yearlings, \$4.75@4.90. The lamb trade was also slow, in many cases 10c lower; top prices for home-bred, \$5.00@5.65; the Fort Collins (Col.) lambs sold at \$5.50, but they were not of the best quality. A fair to good quality of home-fed lambs sold at \$5.25@5.40, and feeding lambs at \$5.25. Old ewes, \$3.90@3.95; fat ewes, \$4.15@4.20.
 Receipts Thursday estimated at 14,000; market steady, unchanged.

Hogs.—Receipts last week were 186,054, as compared with 169,044 the previous week, and 166,747 for the corresponding date in 1897. There was a decrease of about 3,000 in the receipts Monday as compared with the same day last week. Business was active all day, with values a trifle higher, some sales being made at \$4.10, and \$4.07½ was obtained for good hogs, no matter what the price. The market closed steady with about all sold. Latest quotations were as follows: Rough old sows and common, \$3.80@3.85; prime packers and good mixed, \$4.40@4.06; prime medium, butcher-weights and shippers, \$4.05@4.10, largely at \$4.07½. Prime, closely assorted light, of 140 to 170 lbs average, \$4.60@4.05; mixed lots of light, ranging pigs to rough packers, \$3.95@4. Light little pigs, \$3.55@3.60. Up to and including Wednesday of this week receipts have been 108,190, as compared with 110,807 for the same time last week. There was a sharp up-turn on Tuesday, and some reaction was experienced on Wednesday, when prices went off 5c@7½c per 100 lbs. Quotations at the close on Wednesday were as follows: Rough and common lots, \$3.70@3.90; prime packers and good mixed, \$4.05@4.10; prime mediums, butcher-weights, and shippers, \$4.10@4.15, one load at \$4.17½. Prime, closely assorted light, to average 160@175 lbs, sold at \$4.05@4.10; mixed light, running from pigs to packers, \$3.90@3.95; light little pigs, \$3.65@3.70.
 Thursday receipts estimated at 40,000; market slow and 5c lower; light, \$3.80@4.05; mixed, \$3.90@4.17½; heavy, \$3.87@4.10; rough, \$3.85@3.95.

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Examine the Records, some of which we give below:

Maine,	Feb. 2.....	0.03
	" 9.....	0.04
Vermont,	Jan. 13.....	0.01
	" 28.....	0.02
	" 29.....	0.03
	" 30.....	0.04
New Hampshire,	Feb. 18.....	0.01
Massachusetts,	Feb. 19.....	0.04
	Feb. 10.....	0.01
Illinois,	Mar. 12.....	0.01
	" 15.....	0.005
Ohio,	Jan. 15.....	0.02
	Feb. 2.....	0.00
	" 15.....	0.02
	18 tests not over.	0.05
Cornell, in 23 tests, Jan. 7 to Mar. 18,	9 showed only.....	Trace
	" 14.....	0.03 to 0.05
Wisconsin,	Jan. 4.....	0.03
	" 5.....	0.03
	" 21.....	0.03
South Carolina,	April 23.....	0.04
	" 24.....	0.05
	" 30.....	0.04
Michigan,	Mar. 10.....	0.05
	" 10.....	0.05
	" 19.....	0.06
Nebraska,	Jan., 1897, to Mar., 1897	0.05
Minnesota,	June, 1897, 0.03 0.03 0.02	
	Average of 9 runs.....	0.05

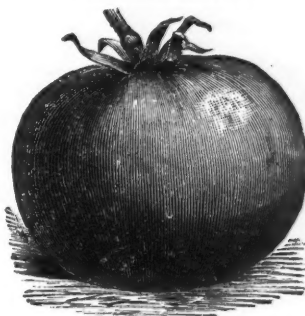
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We present herewith a picture of a new tomato being introduced this season for the first time by Johnson & Stokes, the big seed firm of Philadelphia, Pa. The originators have much to say in commendation of this new tomato, and are exceedingly anxious to secure a name for it in keeping with its many good qualities. To this end they are making an offer of \$200 in cash premiums, which they will pay for suitable names for this and a new beet which they are introducing. This contest is open to all and affords the double advantage of securing two first-class vegetables and the probability of winning a handsome cash prize. Write them at once for terms of competition, and also ask them about their star prize collection of vegetable seeds. The Garden and Farm Annual put out by Johnson & Stokes is one of the very handsomest and most valuable books of the season. They will mail it to you free if you mention this paper in writing.

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Horticultural.

For The Michigan Farmer.
THE GARDEN.

Our former plan was to sow tomato and early cabbage seed in boxes and keep them by the kitchen stove, after the time-honored custom of our grandmothers. So far as the plants are concerned this is a good way. They grow well, and may be had ready for setting out as soon as the spring weather will permit. But this method is bothersome. The boxes are rather pleasant to look at when the plants have attained some size, but there is the daily moving from the stove to the window and back again, or out and in doors when the weather is warm enough. By the time the plants are ready to set out they will have caused no little trouble and labor.

A small hotbed is easily made, and if once used is not likely to be dispensed with. Many are deterred from making one by reading the directions frequently given for its construction and management, but in reality all that is needed for making a hotbed that will serve the purpose for the home garden is a sash or two, a few boards and of course the material for the filling, which is supplied in plenty on any farm by the horse stables.

We have made serviceable beds by digging a hole two feet deep and about the length and width of the sash, two by three feet being a convenient size, then filling with horse manure firmly packed down to a level with the ground and upon this placing a frame for the sash. The frame should be about four inches high at the front and enough higher at the back to give the sash nearly three inches of slant to the foot. The heat will be high for a short time after it gets started, but when it gets down to 90 degrees the seeds may be planted. Each should be banked around the frame and the sash should fit down closely.

This is by no means the best method for making a hotbed, but it is convenient. It is better if the manure is allowed to ferment in a pile before putting in the bed, but it is not always handy to do this. If this is done the pile should be under a shed or covered with boards, as if it gets soaked by rain several days will be lost before it will be ready to give off heat again. When there is a plenty of straw used as bedding we have obtained good results by taking the material from the center of the pile that had accumulated for a few days at the stable and putting directly in the bed, and all the bother of forking over and mixing is saved. The work can then be done all at one time, except the sowing of the seed, and that is quite an important point on a farm in the spring.

We find it a good plan to have a covering to put over the sash at night and on rainy days. A board cover is usually sufficient, but if the cold is severe we add old carpets or gunny sacks. If a little attention is given to this there should be little danger of injury to the plants in the beds by sudden changes of temperature.

Only a small bed is needed for a garden of the ordinary size, but if there is any extra room it can be utilized for early lettuce and radishes, so it is just as well to make the bed large if there are sash at hand to cover it.

It is claimed that the large radish seed starts quicker and grows more rapidly than the small. This is important to the market gardener, and for the home garden it might be worth while to grade the seed before sowing. It may seem like a small matter, but it is worth trying, as in the garden, if anywhere, it is the little things that count. Anyhow, radishes as ordinarily sown grow very unevenly, and if we can improve matters by a little attention to the seed we think it a good plan.

The vineless sweet potato has been offered by seed companies only a short time, yet the reports show that it has come to stay. Up to the present time we have heard of it in Southern Ohio and Indiana, and other places of that latitude. We have not heard from any one in Michigan who has tried it. Will it succeed here? It forms a bush in place of running vines, which is one great advantage over the common variety. The most troublesome feature of sweet potato culture is the mass of vines which the plants form. It is said to be easy to dig. If that is true it is another recommendation. The sweet

potatoes which we have raised were not easy to dig with a fork, hook shovel, or any other implement except a trowel, and we were never sure of getting all of the product even with that. As though this were not enough it is claimed to be very productive, extra early, and of a superb quality, with other features desirable if they could only be concentrated into one vegetable. If half the claims were true the vineless sweet potato ought soon to be common enough to be used for feeding cows, but we don't anticipate that it will be.

We have raised sweet potatoes and shall continue to do so. They grow readily enough in loose, sandy soil. We have not tried them on clay or loam, and have been advised not to. It is not likely they would amount to much on any kind of compact soil, as the roots grow rapidly and must have mellow earth. We have tried both ridge and level culture and prefer the former because it is easier to dig the roots, though not so easy to cultivate.

F. D. W.

For The Michigan Farmer.
SMALL FRUIT FARMING FOR BEGINNERS.—II.

We will not spend much time in regard to the selection of soils, as any good soil will grow small fruits. Heavy clay, light sand, or the light muck soils should not be selected.

To grow choice small fruits the ground should be well drained naturally or artificially; soil not thus drained is quite apt to be, and generally is, cold and sour. In selecting a piece of ground for berries take the richest piece you can get, plow in the fall and draw on manure if you have any, spreading from the wagon, because in this way you can get the manure on more evenly; the fall and winter rains will wash the fertility from the manure into the soil, where it will be held ready to assist in plant growth the following summer. In the spring as soon as the soil is in fit condition to work, give your piece of ground a thorough harrowing and rolling; see to it that every lump is crushed and the soil made mellow as deep as the tools used will work it; a disk harrow is a good tool for this purpose and should be used if obtainable; if there is none handy use the best harrow you have. When this fitting is completed, plow as deep as the surface soil runs, which is usually from 5 to 12 inches, and then with harrow and roller thoroughly work the piece of ground until it is compact and fine; if the work is properly done you will have from 5 to 12 inches of fine dirt which will make a nice feeding ground for the roots of the plants. This is a much better way than to set plants in soil fitted as is usually done for farm crops, as the greater depth of fine soil greatly aids in the conservation of moisture, which is a very necessary condition in growing small fruits. When your ground is properly fitted, mark the piece check rowed; rows 4 feet apart one way and 3 feet the other, the 4-foot rows running the longest way of the field. A piece of board, quarter-inch lumber, with runners nailed underneath, makes a good marker, which a man can draw with but little effort. Now you are ready for the plants. Make a tray about 18 inches long by 8 or 10 inches wide and 2 inches high, water-tight; this is for carrying the plants while setting, and is more convenient than a basket or pail. For digging the plants use a fork in preference to a spade or shovel. Straighten out the leaves, shake the dirt from the roots, if it will come off readily, if not leave it on, and place in layers in the trays, beginning at one end; when taking the plants out begin at the opposite end; this arrangement leaves but a very few roots exposed at one time. Keep enough water in the trays to keep the roots moist at all times.

The most common way of setting strawberry plants at the present time is with a spade. One man shoves a spade into the soil 6 or 8 inches, pushes it to one side, and withdraws it; another man with a tray of plants in one hand, takes a plant from the tray, spreads the roots out fan-shaped, and inserts them into the opening, while the man with the spade presses the soil around the plant with his feet. The crown of the plant should be on a level with the surface; if too deep the plant is smothered; if too high it will be injured by the sun and dry winds. With a little practice you can get them just right every time. What is worth doing at all is worth doing well; do not "rush" when setting

(Continued on page 157).

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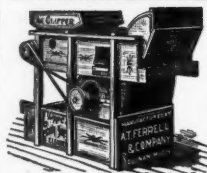
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plants. This method is all right if the soil is in good condition and the work well done, but if the soil is a little wet and the operators careless, the success will be indifferent. I help set some plants for a neighbor a few years ago, and for a long time after a difference could easily be seen between the rows that I set and those set by another party. He and I used the spades and boys carried the plants and placed them in position. I took more pains with my work, though setting just as many rows, consequently the plants grew better, and few if any, were lost. Of course, I had the experience that the other fellow did not, yet there is much in having a liking for the work and the thought uppermost in the mind that what is worth doing is worth doing well. Last spring the soil was very slow in drying, and the above method did not at any time work well, because the spade would leave a shiny surface, so we had a man go ahead with a spade and make holes for the plants, while I followed on my knees and set the plants, a third person carrying the plants and handing them to me as wanted. I set them just as fast as I could the other way, and they were in much better condition for growing, because where the dirt was hard we could draw that which was fine around the roots of the plants.

Too much stress cannot be laid upon this subject of setting plants, for if there is any failure in getting the plants properly set, much of the work done upon them afterward will be lost; because no amount of work can correct the bad results of improper setting.

For raspberries and blackberries prepare the ground as for strawberries, mark the rows 8 feet apart, and set the plants 3 feet apart in the row. A quick way is to plow a furrow about 5 inches deep, place the plants in position, spreading the roots out in every direction, covering quickly. Lastly, be sure that all roots are kept wet from the time they are taken from the ground, or from the box in which they were shipped until they are covered with fresh earth in their new home.

In our next we shall tell something about some of the different varieties and our method of cultivating and hoeing.

St. Clair Co. M. N. EDGERTON.

HORTICULTURAL ITEMS.

A telegram from Los Angeles the past week says: The orange crop of Southern California, now being harvested, is in prime condition. Although there was an unexpected fall of snow January 10th, the fruit was not damaged. The snow was light and soon melted. It was followed by rain, which will do much good to growing crops.

According to Farm, Stock and Home, many thousands of sheep are being fed in Minnesota this winter on the screenings of wheat from the adjacent mills and elevators. The sheep receive no other grain food, and the screenings cost the feeders about \$6 per ton. Thousands of tons of this feed are being bought and fed about the cities in the great wheat region, with considerable profit to all concerned.

T. E. Goodrich, president of the Illinois Horticultural Society, in a recent contribution to an annual issued by the students of the Illinois Agricultural College, says: "I have visited nearly every portion of Illinois, have met her farmers on public conveniences, at institutes, on their farms and in their homes. I have met them under all circumstances of farm life and am always surprised at the lack of fruit. Their tables are painfully barren of this great necessity. No other class of our citizens consume so little fruit as they, and a large proportion of what they do consume is bought, not grown. Why this is so is a mystery yet unsolved. With the land, the teams and tools; with the intelligence to plant and care for, they too frequently buy or go without. A few have all they can consume and a surplus for less fortunate friends and neighbors, a few have a partial supply, but the majority have a very scant allowance; or none at all." That was once the situation in Michigan, but it has been greatly changed in the past ten years.

SUFFERERS FROM COUGHS, SORE THROAT, etc., should be constantly supplied with "Brown's Bronchial Troches." Avoid imitations.

A New Garden Guide.

The new catalogue published this year by the Iowa Seed Co., of Des Moines, is a very complete book, containing hundreds of illustrations, and a description of the most prominent varieties. It is written in a practical way so that it will be of much benefit to farmers, gardeners and flower lovers. These books cost about 15 cents each, but the publishers inform us that they will mail a copy free to any of our readers who ask for it.

The Poultry Yard.

For The Michigan Farmer.
SOME GENERAL OBSERVATIONS.

Now that cold weather is here (and we are having a regular old-fashioned blizzard to-day) we farmers should spend some of our time planning how we can better succeed in raising chicks next summer, and get our plans ready to take care of them. Perhaps some may have an incubator, and that wants to be looked after. If out of repair it should be put in shape at once, and tested, and made ready for the first eggs that are laid. It should be started as soon as February 15 to get out early chicks for the market.

If farmers intend to raise ducks they should be hatched out as soon as March 15, and then by the first of June they will be ready for market and bring a good price—perhaps more than at any other time during the season.

While I was attending the various poultry shows I was surprised to see so many farmers exhibiting fancy poultry. At one show where I was called to judge the poultry, nearly all the exhibitors were farmers, and they showed some very nice stock. While attending the show at Sturgis I met several farmers who exhibited poultry there, and they were surprised to find they had won a prize. It seems that nearly every locality has been looking at the poultry interest in a different light within the past few years. It is not long ago that you could not find a farmer at a poultry show with any birds. Now the city fanciers are behind them with their city raised birds, as the farm stock is generally far superior to any that can be raised in small yards. I find that out when we come to put our Barred Plymouth Rock cockerels upon the scales and they weigh ten pounds. We could never get such weights when we lived in the city. And there is another thing: We find farmers buying more pure bred fowls this year than ever before since we have been in the business. That shows the farmer is improving his stock.

While attending the Farmers' Institutes this winter we had to answer more questions on poultry topics than on any other one thing or subject. It is a new feature in the institutes to have a poultry department. There had never been anything said about chickens at our institutes until this winter. Now we are kept quite busy looking up the official figures and have to read them quite often. This week we shall attend two institutes if we are able. We are glad that the poultry interest is booming, for it is one of the most paying products that can be raised on the farm.

While at Olivet a short time ago we read a paper on the poultry industry in the United States, and some of the farmers almost doubted the statements made. They thought it impossible for poultry to outrank wheat, but such is the case, according to the figures sent out by the department at Washington.

In this part of the State great interest is being taken in regard to building new houses for their fowls, and the way the wind blows to-night they were wise in so doing or their birds must have suffered greatly.

The writer is suffering to-night himself, for on January 4th he had a mishap and sprained his right ankle and fractured the bone also. He cannot get around yet without the aid of crutches, and the doctor says it will be at least three months before I will be able to walk. This means much to us, as we are very busy and have no one to help, as wife and myself are alone, and to hobble around for three months will be quite a task. But one thing is sure, we will have to stand it, and we hope to be able to make the best of it without finding any fault or weeping over what cannot be helped.

Calhoun Co., Mich. C. L. HOGUE.

For The Michigan Farmer.
WHY WARM MASH?

I know that most up-to-date poultrymen advocate warm mash in the morning. I wanted to be an up-to-date poultryman, so began feeding warm mash some three years ago, and have been feeding more or less ever since. I have fed it mornings, have fed it noons, and have fed it just before the hens went to roost, but I have failed to see any great results; on the other

hand, I believe I have seen bad effects. I have sometimes had it too hot, and then I let it stand until it got too cold, both of which I believe are detrimental to the fowl. Then again I believe I can safely attribute some extended crops to the feeding of soft food. I speak of this for the reason that I wish to bring out some thoughts from brother poultrymen, for if it can be made to be a good thing I want it. I need them all, the good things, for the best is none too good.

While attending the round-up farmers' institute at Charlotte we were very ably entertained by talks on soil, fruit, stock and the ever inexhaustible topic of butter-making; but not one word about the poor hen. Now we all admit that farming, and especially butter-making, has become a fine art, but has not the hen a word to say? We think she has. Which brings the most money, the egg or the butter basket? Which, for the money invested, will bring the most "honest" dollars in the year? Now, I like good butter, but if I could have but one, I would take the egg. Of course, we like them both, and they go hand in hand; but is it right that so much should be said on the butter and other questions and nothing for the hen?

I am somewhat like the old woman: I always like the last word. Now, if



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Mr. Bronson will agree not to say anything back I will "fess up," for I did have "the gall" to ask him to tell anyone who wanted to buy a drake at the fair last fall that I raised those drakes; but, mind you, he had none to sell, for he bought his ducks of me. I took mine to the fair, not to win a prize, but to sell, for we could not both win, and he had his pick out of my flock. But say, I hate to tell it, but the blue card was put on my coop. Then I was "sorry that I spoke." JULIUS GARRETT. Eaton Co.

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More than ninety per cent of these companies make no appraisal of the buildings insured before the insurance is written. The application contract states the estimated value of the property, but is carefully worded to set forth the fact that the appraisal is made by the applicant, and not by the company or its agent. These companies never appraise the property until after it is destroyed. Then, with nothing but the ruins, the testimony of the insured, and neighborhood rumors, to base their action upon, the adjusters are expected to do justice both to the company and to the insured. The result is that flagrant injustice is often done, more often to the company, perhaps, than to the insured, but inexcusable in any event. For the whole difficulty can be prevented by requiring the companies' agents to carefully examine the buildings and appraise the same before writing the insurance. Then with a reasonable safeguard in the charter regarding the proportion of the risk to be assumed by the company, say two-thirds or three-fourths of the appraised value, and a provision for reinsuring every five years, the company may safely agree to pay, in cases of total loss, the full amount for which the property is insured. Insurance would thus become, as it should be, a straight contract between the company and the insured, whereby each would be likewise bound to carry out specific obligations. The several companies which have recently adopted this system of insurance have thus far demonstrated the practicability and justness of the scheme beyond any question. The companies' protection lies in the fact that under this system the insurance is not written at too high a figure. The great advantage to the insured lies in the fact that he knows that in case of an honest loss he will get the amount that he has paid assessments on.

When it becomes generally known that certain companies are working successfully on this plan, we predict that the farmers of Michigan will not be slow in abandoning the old and unsatisfactory policy of taking the ashes as the basis of appraisal.

SECRETARY PIERCE.

C. M. Pierce, of Elva, who was elected secretary of the State Association of Farmers' Clubs at the recent annual convention, was born in 1861 in Summit Co., Ohio. When he was one year old his parents moved to Tuscola county of this State, where his father bought a farm. He worked upon his father's farm until he was twenty-one years of age, attending the district school winters until fifteen years of age, after which he attended the Tuscola Union Schools, from which he graduated. He taught in the public schools of Tuscola and Genesee counties for seven years. He then taught in the Michigan School for the Deaf for five years. The past four years he has devoted himself exclusively to farming.

In February, 1895, he helped organize the first farmers' club in Tuscola county, and was elected secretary, a position which he held for two years, resigning to become president of the club, a position he now holds. Was a delegate to the State Association in 1895. In December, 1895, he was elected secretary of Whitney Grange No. 513, and the following year master.

to how to organize new clubs have been answered since December 17th, forty of these during the last ten days. A successful year's work is assured to the State Association with two such capable men as President Cook and Secretary Pierce in command.

A SUGGESTION.

Having received a copy of the "Sixth Annual Program of the Salem Farmers' Club," of Salem, Indiana, through the courtesy of its corresponding secretary, and being very favorably impressed with methods of club work, as therein shown, I believe that our Michigan clubs might with profit adopt some of the methods of this "sister club." The Salem club is composed of 12 families and meets monthly during the entire year. The special feature to which we wish to call attention is that of having announced at the November meeting the program for each month of the succeeding year, and the place of meeting for each month. This plan gives to each hostess ample notice of the date at which she is expected to entertain the club; it gives notice also to each member of the time and part he or she is expected to take in the program. By this means a better and more full preparation for the part assigned is secured. Fifty or more of these neat little annuals could be published for use of the members and for exchanging with other clubs. Thus would the methods of program work practiced by the different clubs be made known. By this means a reciprocity of best methods would result, and the fraternal feeling between the clubs be strengthened. In the leaflet could be published also the list of officers, constitution and by-laws, and other useful information.

Our suggestion is, that the farmers' clubs of Michigan adopt a similar plan.
J. T. DANIELLS.

REPORTS FROM LOCAL CLUBS.

HOWELL FARMERS' CLUB.

This club met December 31st with Mr. and Mrs. Marr. Mrs. Hildebrandt's selection, "Economy in the Home," emphasized the importance of being economical in that sphere. True economy, she said, is not stinginess; economy is not sacrifice. It is not so much what we purchase as the care we take of what we possess. Mr. Beckwith in a paper entitled, "Finished Products of the Farm," placed special emphasis on intensive farming. Farmers realize more from finished products than from raw material, as labor always increases the price. Gardening is good for those who live near town, mixed farming for most localities. Then if one crop fails there are others to fall back on. He believes that prosperity has come. Discussion brought out the thoughts that in these days farming, to be successful, must be made a careful study; that optimism is preferable to pessimism; the cry has been over-production; what will be the result if we follow the advice and increase our productions? Better results might be obtained by owning smaller farms and working them better; farmers are meeting their obligations better than last year; our prosperity this year is due to the misfortune of people across the ocean in having no wheat; but little stock can be kept on small farms; turkeys are more profitable this year than last; the reason farmers are meeting obligations better this year than last is that when they get hold of one of those 16 to 1 silver dollars they do not let it leave their hands till they give it to their creditors, for as it is legal tender they must take it; there is some prosperity ahead.

MRS. R. R. SMITH, Cor. Sec.

LONG LAKE FARMERS' CLUB.

This club met with Oliver Whitman February 3. Potato raising was discussed. Mr. Pratt thinks they can be raised at a fair profit if one is not too far from market and has the proper soil. Mr. Horton talked on "Why not give the girls an equal chance with the boys?" which was excellent. The next meeting will be with Lewis Seaton, March 3.

R. A. SOMERS, Reporter.

HAMLIN FARMERS' CLUB.

December 4th this club elected the

paper by Mrs. F. S. Leighton on "Household Economy" was well received. February meeting will be held with Albert Darling, February 23rd.

D. B. PIERCE, Cor. Sec.

SAND BEACH FARMERS' CLUB.

Mr. George Ward entertained this club February 9. Papers were read on "Farmers' Clubs," "Does Farming Pay?" "The last year's experience on the farm," and "Silos." A short talk was given on the growing of small fruits by Mr. Waterman.

WM. HARGREAVES, Cor. Sec.

FARMERS' UNION CLUB OF MUSKEY.

Fourteen families met with Lewis Tosch February 3 and organized this new club. Officers were elected as follows: President, E. Matteson; vice-president, Albert Tosch; secretary, Alvin Baldwin; treasurer, Henry Grant; corresponding secretary, Rhoda Matteson. The next meeting will be held with A. C. Fairbrother the first Thursday in March.

RHODA M. MATTESON, Cor. Sec.

TYRONE FARMERS' CLUB.

This club has held two meetings and has a membership of forty-four. President, M. V. Saulsbury.

A. W. SMITH, Cor. Sec.

Livingston County.

CRYSTAL FARMERS' CLUB.

met at the home of Mrs. L. Beck. The question, "Should the farmer sell his crops as soon as harvested?" was discussed. An interesting talk was given on the benefits of farmers' clubs, and the ladies discussed butter-making. Interest and enthusiasm prevailed. The club meets with Mr. and Mrs. Welton in February. Officers are: D. M. Shelly, president; H. M. Deyoe, vice-president.

E. R. PARSONS, Sec.

TECUMSEH FARMERS' UNION.

This club at its January meeting discussed the following questions: "If the D. & L. N. car shops be located at Tecumseh, what benefit would it be to the farmer, and is it best for him to contribute to the same?" Much diversity of opinion was expressed, some thinking it would be a great benefit, as the increased population would create a better market for crops, and farm property would increase in value. Others thought farm products would bring no higher prices; that it did not pay farmers to give to railroads as they do not always do as they agree.

"Will the organization of a Grange lessen interest in the club?" Opinions were divided. "Does the present school system do as well for the country schools as that of twenty-five years ago?" The general opinion seemed to be that all schools have improved much in that time, the country schools rather in spite of the system than because of it, as all energies have been bent to bettering the town schools.

"Should timothy hay be cut before or after blossoming?" was discussed, with varying opinions.

L. H. MCCONNELL, Cor. Sec.

SOUTH LEONI FARMERS' CLUB.

The February meeting was entertained by Mrs. A. E. Clement. A paper by C. M. Sullivan on "Hawaii" presented the following points: Its importance as a naval station; the prospect of its annexation by some power; the wisdom of enlarging our navy in any case; the fallacy of the beet sugar objectors.

The following resolutions were discussed: Resolved, that the members of the South Leoni Farmers' Club demand free mail delivery in the country. Resolved, that salaries of postmasters of the first class should be reduced to a reasonable amount. Resolved, that we are opposed to a reduction of letter postage to one cent until mail is delivered free to all citizens. Resolved, that the postage on second-class mail matter should be raised to such a rate that it will be carried at a profit instead of a loss.

The first and third resolutions were passed by the club, while the second and fourth were tabled.

MRS. A. E. CLEMENT, Sec.

Jackson County.

MONTCALM FARMERS' CLUB.

The January meeting of the club was held at the home of Henry Bowers. The subject for discussion was Article I. of the resolutions on legislative affairs adopted by the State Association. Supervisor Henry Bowers was

sulted in quite a raise. This caused discontent among officers that had received relatively the same amount, resulting in a general advance. He said that the Board had seen the need of readjusting salaries to agree with the depressed condition of the times, and that those under the control of the county had been lowered, but of course could do nothing with those fixed by State statute. The Board had expressed itself in favor of a fixed salary and turning all fees into the county funds. He said it was a hard matter to adjust these things, as officers were influential and combined to look out for their own interests.

The impression of the meeting seemed to be that the only remedy was to keep agitating the matter until proper laws are passed and put in force. A resolution was passed heartily endorsing Article I. of the legislative resolutions. After the discussion the club was entertained with an interesting musical program.

Montcalm Co.

E. W. L., Cor. Sec.

COB, CHIPPEWA AND LINCOLN CLUB met at the home of J. J. Gilmore on Jan. 27th. The question "Best method of disposing of farm products," was well discussed, and the idea brought out was to always aim to produce only the best, have it in the best possible condition, be posted as to its value and where it can be disposed of to the best advantage, always preferring to deal with local dealers. The resolutions passed by the State Association were taken up and passed separately, excepting one in reference to postal savings banks and one in reference to retiring greenbacks. Owing to the lateness of the hour and the fact that many were not posted on postal savings banks, the two resolutions were tabled.

The next meeting will be held at the home of J. Kratz, on March 31st.

Isabella Co. A. C. ROWLANDER, Cor. Sec.

NAPOLEON FARMERS' CLUB.

This club met at the home of J. P. Dean on January 15. At dinner each individual was served a plate of fresh crisp lettuce, grown at the Agricultural College, also some very fine winter pears, grown and presented by Hon. J. C. Sharp, of Summit. Mrs. Bronk furnished an excellent paper on "Government," which brought out very forcibly the idea that we should begin government at home. Mrs. Morse suggested it would be a good thing to try in our club, to govern ourselves to be on time. The round-up of the club was a paper, "The Agricultural College and Benefits to the farmer," by M. L. Dean. The paper was a grand, good one and brought out many inquiries. Club meets with C. A. Elliott on Feb. 19th.

Jackson Co. F. M. ELLISON, Cor. Sec'y.

MAPLE VALLEY FARMERS' CLUB.

At our annual meeting held December 14th, at the home of D. Durst, the following officers were elected: President, Henry Lichow; vice-president, Franz S. King; secretary, Mrs. F. S. King; treasurer, John O. Miles. We hold two meetings each month during the winter season, one in afternoon and one in evening. At our last afternoon meeting held at the home of N. S. Bogardus, Mrs. W. A. Blanding gave us a splendid paper on "The Farmer's Wife's Business Relation to Her Husband." She thought the wife's relation should be the same as a partner in any business, should know all about the financial standing and govern herself accordingly, and brought out many other good points.

In the question box were found many interesting topics. How large an orchard on a 80-acre farm? Some thought three acres, well cared for, plenty; one member thought it did not pay to have any, but he was alone in that. Which is the more profitable to keep, cows or sheep? Cows had the preference unless the farmer had plenty of pasture to keep sheep by themselves.

Montcalm Co.

MRS. F. S. KING, Sec'y.

NORTH PLAINS FARMERS' CLUB.

Over eighty were present at the January meeting. The reports of the delegates to the State Association were listened to with much attention by all present. The following officers were then elected for the ensuing year: President, George F. Stone; first vice-president, Mrs. B. B. Bowers; second vice-president,

life of Abraham Lincoln. It was so written that it made a lasting impression on the mind, giving her a better knowledge of him than she has of any other prominent person, simply because of the interesting way it was Lamplighter, "The Pansy Stories," written. "Uncle Tom's Cabin." "In the youth's department of the Inter-Ocean and "The Youth's Companion" were recommended. Do not read too much. It makes sieves of your brains. If you train your brain to forget fiction it will also be trained to forget facts.

Ionis Co. H. Cor. Sec'y.
RAISINVILLE AND IDA FARMERS' CLUB.

The club met Jan. 28th, at the home of Mr. and Mrs. Van Aikens, of Ida. The club question, "What is the best and cheapest method of heating our dwellings?" was discussed by the different members. Most seemed in favor of wood stoves for heating and coal for dirt saving. Mr. Langdon was in favor of hot air furnace, it being more economical in heating the whole house. Mr. Nichols favored steam heating and advised examining them before putting in hot air furnaces.

The club adjourned to meet February 25th, at Silas Kring's Grape, with the following questions: How can farmers best maintain their rightful position in the law making bodies of our land? leader N. Davis. Is the present institute management satisfactory to the farmers of Michigan?

Monroe Co. MERTIE W. KRING, Cor. Sec.
NORTH VERNON FARMERS' CLUB.

This club was entertained February 2 by Mr. and Mrs. J. J. Patchel. We first listened to an address by our new president, T. Cooling, in which he spoke of our organization as a success and as a school for farmers and their wives; that the rising generation should be taught that life on the farm is an honorable position and should stand on a level with any other business; that farmers should organize and work together.

A paper was read by J. Marks, "Why Farm Life is Better Than Town Life." "The farmer should be above the average business man in general information, as he has much more time during the year for self-improvement."

The discussion of the question, "Would it be advisable to consolidate school districts and hire conveyances to carry the pupils to and from school?" was led by Peter Patchel. He thought the teachers would not be obliged to stand on their own merits as at the present time; could not see how any one could think it would be right to do away with the district school. He was followed by S. C. Patchel, who gave a statement of the present expense of our schools and an estimate of what the expense would be under the unit school system, and showed that the expense would be largely increased. Mr. Owen thought if put to the test the people would rise up and put it down. J. J. Patchel thought the present state of our schools nearly perfect. That we would soon be called on to oppose or adopt the system. Others spoke on the question but there were none in favor of doing away with the district school.

The club meets March 2 with Philip Kline.

Stella Davenport,
Shawnee Co. Corresponding Secretary.
SALINE FARMERS' CLUB.

At the annual meeting of this club the following officers were elected: President, G. L. Hoyt; vice-president, H. D. Platt; second vice-president, Mrs. Chas. Miller; recording secretary, B. N. Smith; corresponding secretary, A. A. Wood; treasurer, A. G. Cobb. At the February meeting the following resolution was unanimously adopted: Resolved, That we, the members of the Saline Farmers' Club, do heartily endorse the efforts of the pure food commissioner of the State of Michigan in his endeavors to enforce the laws relating thereto.

Washtenaw Co. A. A. WOOD, Cor. Sec.
WESTERN WASHTENAW FARMERS' CLUB.

This club held its January meeting with Geo. W. Boynton. Our delegates to the State Association, Alvin Baldwin and George Chapman, gave a very interesting report of the proceedings of the convention, Mr. Baldwin giving a report of the first part of the meeting and Mr. Chapman the latter part. The report was accepted and a vote of

enough to attend to now, and that it would be an added expense. The February meeting will be held with Dennis Spaulding. We all feel well repaid for the efforts we have made in getting to the meetings and hope to improve during the next year.

Washtenaw Co. FRANK STORMS, Sec.
CLYDE AND GRANT FARMERS' CLUB.

The December session of the club was held at the residence of J. W. Gardner, and was largely attended. The county roads system was the subject of discussion, and while two or three favored the project and all wanted good roads the general sentiment of the club appeared unfavorable to the system as at present before the people. Arrangements were made for holding the January meeting in connection with the teachers of this part of the county, on request of Commissioner of Schools R. S. Campbell, as an "Educational Rally." This meeting proved to be a very enthusiastic and interesting affair. Papers were read as follows: How can the farmer best spend his time in winter; A model school board; The necessity for higher education among farmers; The school from an officer's standpoint; Free text books; School grounds and school houses; A paper on the report of committee of twelve on rural schools. All of these papers were well written, full of interest, true to subject and called out much discussion. Too much of the space of this department would be required to do justice in trying to give an analysis of them. Will only say that if the teachers on the program are a fair specimen of those of the whole county, the commissioner and the people of the county are to be congratulated, and that we may expect to see much accomplished in intellectual advancement among us during this school year. The February meeting will be held at the town hall in Grant on the 23d.

MRS. O. McKAY, Cor. Sec.
St. Clair Co.

SOUTH JACKSON FARMERS' CLUB.
The January meeting was held at the home of R. D. M. Edwards on the 29th inst. The house was crowded to its utmost capacity and much interest and enthusiasm manifested.

Mrs. Milton Reed opened the discussion upon "current events." She mentioned the recent cattle deal of Swift & Morris vs. Armour, and the Klondike. She does not advise us to join in the stampede for the latter region. It's a great country, but—

Delatus Goldsmith spoke briefly of the gold craze, and of the annexation of Hawaii, but considers the Cuban trouble the question of the day. "I wish Cuba were free; she ought to be free; but Cuba belongs to Spain, and, as we have no right to take away an individual's property, so we have no right to take away that of a nation." Mr. Pellet partially agrees with Mr. Goldsmith, but thinks it our duty to stop the atrocities now being committed there.

Mrs. Ford thinks we have a right to interfere in the cause of humanity anywhere and everywhere. Mrs. Hutchins is quite sure we have trouble enough of our own at home. We ought not to seek it with other nations. If Cuba cannot win her independence alone she should give it up. Her remarks astonished and grieved Horton Goldsmith. He is equally sure it will be a disgrace to the world to see Cuba now conquered by Spain. She is struggling for just what we fought for in the days of '76 and there ought not to be a person in the United States to object to lending her a helping hand. Mr. Neely doesn't think much of the Cubans. They are not on a par with the Americans and it's none of our business, anyhow.

Mr. Tygh: The very idea! And we claim to be a Christian, civilized nation and yet would not assist our helpless neighbor because she is not our equal!

Mr. Edwards was called for: We should be broad-minded and unselfish enough to place ourselves in the position of those in authority and look at the matter from their point of view. It is a difficult thing to do the only right one.

Prof. Harlow, county commissioner of schools, was present, and through expressing himself as unprepared to speak upon the subject, said a good word for Cuba.

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Horticultural.

For The Michigan Farmer.
THE GARDEN.

Our former plan was to sow tomato and early cabbage seed in boxes and keep them by the kitchen stove, after the time-honored custom of our grandmothers. So far as the plants are concerned this is a good way. They grow well, and may be had ready for setting out as soon as the spring weather will permit. But this method is bothersome. The boxes are rather pleasant to look at when the plants have attained some size, but there is the daily moving from the stove to the window and back again, or out and in doors when the weather is warm enough. By the time the plants are ready to set out they will have caused no little trouble and labor.

A small hotbed is easily made, and if once used is not likely to be dispensed with. Many are deterred from making one by reading the directions frequently given for its construction and management, but in reality all that is needed for making a hotbed that will serve the purpose for the home garden is a sash or two, a few boards and of course the material for the filling, which is supplied in plenty on any farm by the horse stables.

We have made serviceable beds by digging a hole two feet deep and about the length and width of the sash, two by three feet being a convenient size, then filling with horse manure firmly packed down to a level with the ground and upon this placing a frame for the sash. The frame should be about four inches high at the front and enough higher at the back to give the sash nearly three inches of slant to the foot. The heat will be high for a short time after it gets started, but when it gets down to 90 degrees the seeds may be planted. Each should be banked around the frame and the sash should fit down closely.

This is by no means the best method for making a hotbed, but it is convenient. It is better if the manure is allowed to ferment in a pile before putting in the bed, but it is not always handy to do this. If this is done the pile should be under a shed or covered with boards, as if it gets soaked by rain several days will be lost before it will be ready to give off heat again. When there is a plenty of straw used as bedding we have obtained good results by taking the material from the center of the pile that had accumulated for a few days at the stable and putting directly in the bed, and all the bother of forking over and mixing is saved. The work can then be done all at one time, except the sowing of the seed, and that is quite an important point on a farm in the spring.

We find it a good plan to have a covering to put over the sash at night and on rainy days. A board cover is usually sufficient, but if the cold is severe we add old carpets or gunny sacks. If a little attention is given to this there should be little danger of injury to the plants in the beds by sudden changes of temperature.

Only a small bed is needed for a garden of the ordinary size, but if there is any extra room it can be utilized for early lettuce and radishes, so it is just as well to make the bed large if there are sash at hand to cover it.

It is claimed that the large radish seed starts quicker and grows more rapidly than the small. This is important to the market gardener, and for the home garden it might be worth while to grade the seed before sowing. It may seem like a small matter, but it is worth trying, as in the garden, if anywhere, it is the little things that count. Anyhow, radishes as ordinarily sown grow very unevenly, and if we can improve matters by a little attention to the seed we think it a good plan.

The vineless sweet potato has been offered by seed companies only a short time, yet the reports show that it has come to stay. Up to the present time we have heard of it in Southern Ohio and Indiana, and other places of that latitude. We have not heard from any one in Michigan who has tried it. Will it succeed here? It forms a bush in place of running vines, which is one great advantage over the common variety. The most troublesome feature of sweet potato culture is the mass of vines which the plants form. It is said to be easy to dig. If that is true it is another recommendation. The sweet

potatoes which we have raised were not easy to dig with a fork, hook shovel, or any other implement except a trowel, and we were never sure of getting all of the product even with that. As though this were not enough it is claimed to be very productive, extra early, and of a superb quality, with other features desirable if they could only be concentrated into one vegetable. If half the claims were true the vineless sweet potato ought soon to be common enough to be used for feeding cows, but we don't anticipate that it will be.

We have raised sweet potatoes and shall continue to do so. They grow readily enough in loose, sandy soil. We have not tried them on clay or loam, and have been advised not to. It is not likely they would amount to much on any kind of compact soil, as the roots grow rapidly and must have mellow earth. We have tried both ridge and level culture and prefer the former because it is easier to dig the roots, though not so easy to cultivate.

F. D. W.

For The Michigan Farmer.

SMALL FRUIT FARMING FOR BEGINNERS.—II.

We will not spend much time in regard to the selection of soils, as any good soil will grow small fruits. Heavy clay, light sand, or the light muck soils should not be selected.

To grow choice small fruits the ground should be well drained naturally or artificially; soil not thus drained is quite apt to be, and generally is, cold and sour. In selecting a piece of ground for berries take the richest piece you can get, plow in the fall and draw on manure if you have any, spreading from the wagon, because in this way you can get the manure on more evenly; the fall and winter rains will wash the fertility from the manure into the soil, where it will be held ready to assist in plant growth the following summer. In the spring as soon as the soil is in fit condition to work, give your piece of ground a thorough harrowing and rolling; see to it that every lump is crushed and the soil made mellow as deep as the tools used will work it; a disk harrow is a good tool for this purpose and should be used if obtainable; if there is none handy use the best harrow you have. When this fitting is completed, plow as deep as the surface soil runs, which is usually from 5 to 12 inches, and then with harrow and roller thoroughly work the piece of ground until it is compact and fine; if the work is properly done you will have from 5 to 12 inches of fine dirt which will make a nice feeding ground for the roots of the plants. This is a much better way than to set plants in soil fitted as is usually done for farm crops, as the greater depth of fine soil greatly aids in the conservation of moisture, which is a very necessary condition in growing small fruits. When your ground is properly fitted, mark the piece check rowed; rows 4 feet apart one way and 3 feet the other, the 4-foot rows running the longest way of the field. A piece of board, quarter-inch lumber, with runners nailed underneath, makes a good marker, which a man can draw with but little effort. Now you are ready for the plants. Make a tray about 18 inches long by 8 or 10 inches wide and 2 inches high, water-tight; this is for carrying the plants while setting, and is more convenient than a basket or pail. For digging the plants use a fork in preference to a spade or shovel. Straighten out the leaves, shake the dirt from the roots, if it will come off readily, if not leave it on, and place in layers in the trays, beginning at one end; when taking the plants out begin at the opposite end; this arrangement leaves but a very few roots exposed at one time. Keep enough water in the trays to keep the roots moist at all times.

The most common way of setting strawberry plants at the present time is with a spade. One man shoves a spade into the soil 6 or 8 inches, pushes it to one side, and withdraws it; another man with a tray of plants in one hand, takes a plant from the tray, spreads the roots out fan-shaped, and inserts them into the opening, while the man with the spade presses the soil around the plant with his feet. The crown of the plant should be on a level with the surface; if too deep the plant is smothered; if too high it will be injured by the sun and dry winds. With a little practice you can get them just right every time. What is worth doing at all is worth doing well; do not "rush" when setting

(Continued on page 157).

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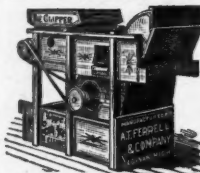
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by myself from carefully selected cabbages, onions, carrots, beets, etc., (on the principle that like begets like) yet sold as cheap as seed raised from trash. As the original introducer of Cory and Lucky Corn, Deep Head and All-Season's Cabbages, Hubbard and Warren Squash, Miller's Melon, Burbank Potato, the Surprise Pea, and scores of the best vegetables now grown everywhere, brother farmer, I invite a share of your patronage. I want you to plant your potatoes.

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one year 2 to 3 ft., mostly branched, with freight prepaid to any station east of Miss. river for \$19; or 500 for \$11. Sample prepaid, 25c. Other sized trees proportional prices. R. S. JOHNSTON, Box No. 6, Stockley, Del.

plants. This method is all right if the soil is in good condition and the work well done, but if the soil is a little wet and the operators careless, the success will be indifferent. I help set some plants for a neighbor a few years ago, and for a long time after a difference could easily be seen between the rows that I set and those set by another party. He and I used the spades and boys carried the plants and placed them in position. I took more pains with my work, though setting just as many rows, consequently the plants grew better, and few if any, were lost. Of course, I had the experience that the other fellow did not, yet there is much in having a liking for the work and the thought uppermost in the mind that what is worth doing is worth doing well. Last spring the soil was very slow in drying, and the above method did not at any time work well, because the spade would leave a shiny surface, so we had a man go ahead with a spade and make holes for the plants, while I followed on my knees and set the plants, a third person carrying the plants and handing them to me as wanted. I set them just as fast as I could the other way, and they were in much better condition for growing, because where the dirt was hard we could draw that which was fine around the roots of the plants.

Too much stress cannot be laid upon this subject of setting plants, for if there is any failure in getting the plants properly set, much of the work done upon them afterward will be lost; because no amount of work can correct the bad results of improper setting.

For raspberries and blackberries prepare the ground as for strawberries, mark the rows 8 feet apart, and set the plants 3 feet apart in the row. A quick way is to plow a furrow about 5 inches deep, place the plants in position, spreading the roots out in every direction, covering quickly. Lastly, be sure that all roots are kept wet from the time they are taken from the ground, or from the box in which they were shipped until they are covered with fresh earth in their new home.

In our next we shall tell something about some of the different varieties and our method of cultivating and hoeing.

St. Clair Co. M. N. EDGERTON.

HORTICULTURAL ITEMS.

A telegram from Los Angeles the past week says: The orange crop of Southern California, now being harvested, is in prime condition. Although there was an unexpected fall of snow January 10th, the fruit was not damaged. The snow was light and soon melted. It was followed by rain, which will do much good to growing crops.

According to Farm, Stock and Home, many thousands of sheep are being fed in Minnesota this winter on the screenings of wheat from the adjacent mills and elevators. The sheep receive no other grain food, and the screenings cost the feeders about \$6 per ton. Thousands of tons of this feed are being bought and fed about the cities in the great wheat region, with considerable profit to all concerned.

T. E. Goodrich, president of the Illinois Horticultural Society, in a recent contribution to an annual issued by the students of the Illinois Agricultural College, says: "I have visited nearly every portion of Illinois, have met her farmers on public conveyances, at institutes, on their farms and in their homes. I have met them under all circumstances of farm life and am always surprised at the lack of fruit. Their tables are painfully barren of this great necessity. No other class of our citizens consume so little fruit as they, and a large proportion of what they do consume is bought, not grown. Why this is so is a mystery yet unsolved. With the land, the teams and tools; with the intelligence to plant and care for, they too frequently buy or go without. A few have all they can consume and a surplus for less fortunate friends and neighbors, a few have a partial supply, but the majority have a very scant allowance, or none at all." That was once the situation in Michigan, but it has been greatly changed in the past ten years.

SUFFERERS FROM COUGHS, SORE THROAT, etc., should be constantly supplied with "Brown's Bronchial Trochets." Avoid imitations.

A New Garden Guide.

The new catalogue published this year by the Iowa Seed Co., of Des Moines, is a very complete book, containing hundreds of illustrations, and a description of the most prominent varieties. It is written in a practical way so that it will be of much benefit to farmers, gardeners and flower lovers. These books cost about 15 cents each, but the publishers inform us that they will mail a copy free to any of our readers who ask for it.

The Poultry Yard.

For The Michigan Farmer.
SOME GENERAL OBSERVATIONS.

Now that cold weather is here (and we are having a regular old-fashioned blizzard to-day) we farmers should spend some of our time planning how we can better succeed in raising chicks next summer, and get our plans ready to take care of them. Perhaps some may have an incubator, and that wants to be looked after. If out of repair it should be put in shape at once, and tested, and made ready for the first eggs that are laid. It should be started as soon as February 15 to get out early chicks for the market.

If farmers intend to raise ducks they should be hatched out as soon as March 15, and then by the first of June they will be ready for market and bring a good price—perhaps more than at any other time during the season.

While I was attending the various poultry shows I was surprised to see so many farmers exhibiting fancy poultry. At one show where I was called to judge the poultry, nearly all the exhibitors were farmers, and they showed some very nice stock. While attending the show at Sturgis I met several farmers who exhibited poultry there, and they were surprised to find they had won a prize. It seems that nearly every locality has been looking at the poultry interest in a different light within the past few years. It is not long ago that you could not find a farmer at a poultry show with any birds. Now the city fanciers are behind them with their city raised birds, as the farm stock is generally far superior to any that can be raised in small yards. I find that out when we come to put our Barred Plymouth Rock cockerels upon the scales and they weigh ten pounds. We could never get such weights when we lived in the city. And there is another thing: We find farmers buying more pure bred fowls this year than ever before since we have been in the business. That shows the farmer is improving his stock.

While attending the Farmers' Institutes this winter we had to answer more questions on poultry topics than on any other one thing or subject. It is a new feature in the institutes to have a poultry department. There had never been anything said about chickens at our institutes until this winter. Now we are kept quite busy looking up the official figures and have to read them quite often. This week we shall attend two institutes if we are able. We are glad that the poultry interest is booming, for it is one of the most paying products that can be raised on the farm.

While at Olivet a short time ago we read a paper on the poultry industry in the United States, and some of the farmers almost doubted the statements made. They thought it impossible for poultry to outrank wheat, but such is the case, according to the figures sent out by the department at Washington.

In this part of the State great interest is being taken in regard to building new houses for their fowls, and the way the wind blows to-night they were wise in so doing or their birds must have suffered greatly.

The writer is suffering to-night himself, for on January 4th he had a mishap and sprained his right ankle and fractured the bone also. He cannot get around yet without the aid of crutches, and the doctor says it will be at least three months before I will be able to walk. This means much to us, as we are very busy and have no one to help, as wife and myself are alone, and to hobble around for three months will be quite a task. But one thing is sure, we will have to stand it, and we hope to be able to make the best of it without finding any fault or weeping over what cannot be helped.

Calhoun Co., Mich.

C. L. HOGUE.

For The Michigan Farmer.
WHY WARM MASH?

I know that most up-to-date poultrymen advocate warm mash in the morning. I wanted to be an up-to-date poultryman, so began feeding warm mash some three years ago, and have been feeding more or less ever since. I have fed it mornings, have fed it noons, and have fed it just before the hens went to roost, but I have failed to see any great results; on the other

hand, I believe I have seen bad effects. I have sometimes had it too hot, and then I let it stand until it got too cold, both of which I believe are detrimental to the fowl. Then again I believe I can safely attribute some extended crops to the feeding of soft food. I speak of this for the reason that I wish to bring out some thoughts from brother poultrymen, for if it can be made to be a good thing I want it. I need them all, the good things, for the best is none too good.

While attending the round-up farmers' institute at Charlotte we were very ably entertained by talks on soil, fruit, stock and the ever inexhaustible topic of butter-making; but not one word about the poor hen. Now we all admit that farming, and especially butter-making, has become a fine art, but has not the hen a word to say? We think she has. Which brings the most money, the egg or the butter basket? Which, for the money invested, will bring the most "honest" dollars in the year? Now, I like good butter, but if I could have but one, I would take the egg. Of course, we like them both, and they go hand in hand; but is it right that so much should be said on the butter and other questions and nothing for the hen?

I am somewhat like the old woman: I always like the last word. Now, if



WE no longer supply our seeds to dealers to sell again. At the same time, anyone who has bought our seeds of their local dealer during either 1896 or 1897 will be sent our Manual of "Everything for the Garden" for 1898 FREE provided they apply by letter and give the name of the local merchant from whom they bought. To all others, this magnificent Manual, every copy of which costs us 30 cents to place in your hands, will be sent free on receipt of 10 cents (stamps) to cover postage. Nothing like this Manual has ever been seen here or abroad; it is a book of 200 pages, contains 500 engravings of seeds and plants, mostly new, and these are supplemented by 6 full size colored plates of the best novelties of the season, finally, OUR "SOUVENIR" SEED COLLECTION will also be sent without charge to all applicants sending 10 cts. for the Manual who will state where they saw this advertisement. Postal Card Applications Will Receive No Attention.

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POULTRY PAPER, illus'd, 20 pages, 25 cts. per year. 4 months trial 10 cts. Sample free. 64-page practical poultry book free to yearly subscribers. Book alone 10 cts. Catalogue of poultry books free. Poultry Advocate, Syracuse, N. Y.

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Vice-President—Mrs. E. L. Lockwood, Petersburg.
Secretary—C. M. Pierce, Elva.
Directors—W. H. Howlett, Danville; C. J. Phelps, Damsen; P. M. Whelan, North Newburg; A. L. Landon, Springport; H. Gaunt, Highland; A. P. Greene, Eaton Rapids.
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FARMERS' MUTUAL FIRE INSURANCE COMPANIES—APPRAISAL BEFORE INSURING.

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When it becomes generally known that certain companies are working successfully on this plan, we predict that the farmers of Michigan will not be slow in abandoning the old and unsatisfactory policy of taking the ashes as the basis of appraisal.

SECRETARY PIERCE.

C. M. Pierce, of Elva, who was elected secretary of the State Association of Farmers' Clubs at the recent annual convention, was born in 1861 in Summit Co., Ohio. When he was one year old his parents moved to Tuscola county of this State, where his father bought a farm. He worked upon his father's farm until he was twenty-one years of age, attending the district school winters until fifteen years of age, after which he attended the Tuscola Union Schools, from which he graduated. He taught in the public schools of Tuscola and Genesee counties for seven years. He then taught in the Michigan School for the Deaf for five years. The past four years he has devoted himself exclusively to farming.

In February, 1895, he helped organize the first farmers' club in Tuscola county, and was elected secretary, a position which he held for two years, resigning to become president of the club, a position he now holds. Was a delegate to the State Association in 1895. In December, 1895, he was elected secretary of Whitney Grange No. 513, and the following year master.

The remarkable adaptability of Secretary Pierce to the duties of his new office is best shown from the report he has just sent to this office. This report states that there have been sixteen new clubs organized in this State and one in Virginia since the beginning of his term. Inquiries have been received from two places in Alabama and from Utah. Seventy inquiries as

to how to organize new clubs have been answered since December 17th, forty of these during the last ten days. A successful year's work is assured to the State Association with two such capable men as President Cook and Secretary Pierce in command.

A SUGGESTION.

Having received a copy of the "Sixth Annual Program of the Salem Farmers' Club," of Salem, Indiana, through the courtesy of its corresponding secretary, and being very favorably impressed with methods of club work, as therein shown, I believe that our Michigan clubs might with profit adopt some of the methods of this "sister club." The Salem club is composed of 12 families and meets monthly during the entire year. The special feature to which we wish to call attention is that of having announced at the November meeting the program for each month of the succeeding year, and the place of meeting for each month. This plan gives to each hostess ample notice of the date at which she is expected to entertain the club; it gives notice also to each member of the time and part he or she is expected to take in the program. By this means a better and more full preparation for the part assigned is secured. Fifty or more of these neat little annuals could be published for use of the members and for exchanging with other clubs. Thus would the methods of program work practiced by the different clubs be made known. By this means a reciprocity of best methods would result, and the fraternal feeling between the clubs be strengthened. In the leaflet could be published also the list of officers, constitution and by-laws, and other useful information.

Our suggestion is, that the farmers' clubs of Michigan adopt a similar plan.
J. T. DANIELLS.

REPORTS FROM LOCAL CLUBS.

HOWELL FARMERS' CLUB.

This club met December 31st with Mr. and Mrs. Marr. Mrs. Hildebrandt's selection, "Economy in the Home," emphasized the importance of being economical in that sphere. True economy, she said, is not stinginess; economy is not sacrifice. It is not so much what we purchase as the care we take of what we possess. Mr. Beckwith in a paper entitled, "Finished Products of the Farm," placed special emphasis on intensive farming. Farmers realize more from finished products than from raw material, as labor always increases the price. Gardening is good for those who live near town, mixed farming for most localities. Then if one crop fails there are others to fall back on. He believes that prosperity has come. Discussion brought out the thoughts that in these days farming, to be successful, must be made a careful study; that optimism is preferable to pessimism; the cry has been over-production; what will be the result if we follow the advice and increase our productions? Better results might be obtained by owning smaller farms and working them better; farmers are meeting their obligations better than last year; our prosperity this year is due to the misfortune of people across the ocean in having no wheat; but little stock can be kept on small farms; turkeys are more profitable this year than last; the reason farmers are meeting obligations better this year than last is that when they get hold of one of those 16 to 1 silver dollars they do not let it leave their hands till they give it to their creditors, for as it is legal tender they must take it; there is some prosperity ahead.

MRS. R. R. SMITH, Cor. Sec.

LONG LAKE FARMERS' CLUB.

This club met with Oliver Whitman February 3. Potato raising was discussed. Mr. Pratt thinks they can be raised at a fair profit if one is not too far from market and has the proper soil. Mr. Horton talked on "Why not give the girls an equal chance with the boys?" which was excellent. The next meeting will be with Lewis Seaton, March 3.

S. A. SOMERS, Reporter.

HAMLIN FARMERS' CLUB.

December 4th this club elected the following officers for the ensuing year: President, C. M. Hunt; vice-president, D. B. Hale; secretary, A. P. Green; corresponding secretary, D. B. Pierce. A. P. Green and wife were appointed delegates to the State convention.

The January meeting was held with Mr. and Mrs. Joel Hayward, at which time an interesting report of the Association meeting was listened to. A

paper by Mrs. F. S. Leighton on "Household Economy" was well received. February meeting will be held with Albert Darling, February 23rd.

D. B. PIERCE, Cor. Sec.

SAND BEACH FARMERS' CLUB.

Mr. George Ward entertained this club February 9. Papers were read on "Farmers' Clubs," "Does Farming Pay?" "The last year's experience on the farm," and "Silos." A short talk was given on the growing of small fruits by Mr. Waterman.

WM. HARGREAVES, Cor. Sec.

FARMERS' UNION CLUB OF MUSSEY.

Fourteen families met with Lewis Tosch February 3 and organized this new club. Officers were elected as follows: President, E. Matteson; vice-president, Albert Tosch; secretary, Alvin Baldwin; treasurer, Henry Grant; corresponding secretary, Rhoda Matteson. The next meeting will be held with A. C. Fairbrother the first Thursday in March.

RHODA M. MATTESON, Cor. Sec.

TYRONE FARMERS' CLUB.

This club has held two meetings and has a membership of forty-four. President, M. V. Saulsbury.

A. W. SMITH, Cor. Sec.

LIVINGSTON COUNTY.

CRYSTAL FARMERS' CLUB.

met at the home of Mrs. L. Beck. The question, "Should the farmer sell his crops as soon as harvested?" was discussed. An interesting talk was given on the benefits of farmers' clubs, and the ladies discussed butter-making. Interest and enthusiasm prevailed. The club meets with Mr. and Mrs. Welton in February. Officers are: D. M. Shelly, president; H. M. Deyoe, vice-president.

E. R. PARSON, Sec.

TECUMSEH FARMERS' UNION.

This club at its January meeting discussed the following questions: "If the D. & L. N. car shops be located at Tecumseh, what benefit would it be to the farmer, and is it best for him to contribute to the same?" Much diversity of opinion was expressed, some thinking it would be a great benefit, as the increased population would create a better market for crops, and farm property would increase in value. Others thought farm products would bring no higher prices; that it did not pay farmers to give to railroads as they do not always do as they agree.

"Will the organization of a Grange lessen interest in the club?" Opinions were divided. "Does the present school system do as well for the country schools as that of twenty-five years ago?" The general opinion seemed to be that all schools have improved much in that time, the country schools rather in spite of the system than because of it, as all energies have been bent to bettering the town schools.

"Should timothy hay be cut before or after blossoming?" was discussed, with varying opinions.

L. H. MCCONNELL, Cor. Sec.

SOUTH LEONI FARMERS' CLUB.

The February meeting was entertained by Mrs. A. E. Clement. A paper by C. M. Sullivan on "Hawaii" presented the following points: Its importance as a naval station; the prospect of its annexation by some power; the wisdom of enlarging our navy in any case; the fallacy of the beet sugar objectors.

The following resolutions were discussed: Resolved, that the members of the South Leoni Farmers' Club demand free mail delivery in the country. Resolved, that salaries of postmasters of the first class should be reduced to a reasonable amount. Resolved, that we are opposed to a reduction of letter postage to one cent until mail is delivered free to all citizens. Resolved, that the postage on second-class mail matter should be raised to such a rate that it will be carried at a profit instead of a loss.

The first and third resolutions were passed by the club, while the second and fourth were tabled.

MRS. A. E. CLEMENT, Sec.

JACKSON COUNTY.

MONTCALM FARMERS' CLUB.

The January meeting of the club was held at the home of Henry Bowers. The subject for discussion was Article I. of the resolutions on legislative affairs adopted by the State Association. Supervisor Henry Sharp was present and held the close attention of the meeting for over half an hour in a discussion of the salaries and fees of county and township officers. He said the tendency had been to take these matters out of the immediate control of the people; that some salaries which were formerly adjusted by the Board of Supervisors are now fixed by the State; that in many cases this had re-

sulted in quite a raise. This caused discontent among officers that had received relatively the same amount, resulting in a general advance. He said that the Board had seen the need of readjusting salaries to agree with the depressed condition of the times, and that those under the control of the county had been lowered, but of course could do nothing with those fixed by State statute. The Board had expressed itself in favor of a fixed salary and turning all fees into the county funds. He said it was a hard matter to adjust these things, as officers were influential and combined to look out for their own interests.

The impression of the meeting seemed to be that the only remedy was to keep agitating the matter until proper laws are passed and put in force. A resolution was passed heartily endorsing Article I. of the legislative resolutions. After the discussion the club was entertained with an interesting musical program.

Montcalm Co. E. W. L., Cor. Sec.

COB, CHIPPEWA AND LINCOLN CLUB met at the home of J. J. Gilmore on Jan. 27th. The question "Best method of disposing of farm products," was well discussed, and the idea brought out was to always aim to produce only the best, have it in the best possible condition, be posted as to its value and where it can be disposed of to the best advantage, always preferring to deal with local dealers. The resolutions passed by the State Association were taken up and passed separately, excepting one in reference to postal savings banks and one in reference to retiring greenbacks. Owing to the lateness of the hour and the fact that many were not posted on postal savings banks, the two resolutions were tabled.

The next meeting will be held at the home of J. Kratz, on March 31st.

Isabella Co. A. C. ROWLADER, Cor. Sec.

NAPOLÉON FARMERS' CLUB.

This club met at the home of J. P. Dean on January 15. At dinner each individual was served a plate of fresh crisp lettuce, grown at the Agricultural College, also some very fine winter pears, grown and presented by Hon. J. C. Sharp, of Summit. Mrs. Bronk furnished an excellent paper on "Government," which brought out very forcibly the idea that we should begin government at home. Mrs. Morse suggested it would be a good thing to try in our club, to govern ourselves to be on time. The round-up of the club was a paper, "The Agricultural College and Benefits to the farmer," by M. L. Dean. The paper was a grand, good one and brought out many inquiries. Club meets with C. A. Elliott on Feb. 19th.

Jackson Co. F. M. ELLISON, Cor. Sec'y.

MAPLE VALLEY FARMERS' CLUB.

At our annual meeting held December 14th, at the home of D. Durst, the following officers were elected: President, Henry Lilchow; vice-president, Franz S. King; secretary, Mrs. F. S. King; treasurer, John O. Miles. We hold two meetings each month during the winter season, one in afternoon and one in evening. At our last afternoon meeting held at the home of N. S. Bogardus, Mrs. W. A. Blanding gave us a splendid paper on "The Farmer's Wife's Business Relation to Her Husband." She thought the wife's relation should be the same as a partner in any business, should know all about the financial standing and govern herself accordingly, and brought out many other good points.

In the question box were found many interesting topics. How large an orchard on a 80-acre farm? Some thought three acres, well cared for, plenty; one member thought it did not pay to have any, but he was alone in that. Which is the more profitable to keep, cows or sheep? Cows had the preference unless the farmer had plenty of pasture to keep sheep by themselves.

Montcalm Co. MRS. F. S. KING, Sec'y.

NORTH PLAINS FARMERS' CLUB.

Over eighty were present at the January meeting. The reports of the delegates to the State Association were listened to with much attention by all present. The following officers were then elected for the ensuing year: President, George F. Stone; first vice-president, Mrs. F. Baxter; second vice-pres., J. M. Chase; secretary, L. H. Heydlauff; corresponding secretary, Mrs. D. S. Waldron; treasurer, J. S. Tiffitts.

Mrs. S. E. Mook had an excellent paper on "What Shall Our Children Read?" She thought it was more difficult to tell what they should not read. She told of the first books of her girlhood reading; one of the very first was a child's history or story of the early

life of Abraham Lincoln. It was so written that it made a lasting impression on the mind, giving her a better knowledge of him than she has of any other prominent person, simply because of the interesting way it was Lamplighter." "The Pansy Stories," written. "Uncle Tom's Cabin," "In the The youth's department of the Inter-Ocean and "The Youth's Companion" were recommended. Do not read too much. It makes sieves of your brains. If you train your brain to forget fiction it will also be trained to forget facts.

Ionia Co. H. Cor. Sec'y.
RAISINVILLE AND IDA FARMERS' CLUB.

The club met Jan. 28th, at the home of Mr. and Mrs. Van Aikens, of Ida. The club question, "What is the best and cheapest method of heating our dwellings?" was discussed by the different members. Most seemed in favor of wood stoves for heating and coal for dirt saving. Mr. Langdon was in favor of hot air furnace, it being more economical in heating the whole house. Mr. Nichols favored steam heating and advised examining them before putting in hot air furnaces.

The club adjourned to meet February 25th, at Silas Kring's Grape, with the following questions: How can farmers best maintain their rightful position in the law making bodies of our land? leader N. Davis. Is the present institute management satisfactory to the farmers of Michigan?

Monroe Co. MERTIE W. KRING, Cor. Sec.
NORTH VERNON FARMERS' CLUB.

This club was entertained February 2 by Mr. and Mrs. J. J. Patchel. We first listened to an address by our new president, T. Cooling, in which he spoke of our organization as a success and as a school for farmers and their wives; that the rising generation should be taught that life on the farm is an honorable position and should stand on a level with any other business; that farmers should organize and work together.

A paper was read by J. Marks, "Why Farm Life is Better Than Town Life." "The farmer should be above the average business man in general information, as he has much more time during the year for self-improvement."

The discussion of the question, "Would it be advisable to consolidate school districts and hire conveyances to carry the pupils to and from school?" was led by Peter Patchel. He thought the teachers would not be obliged to stand on their own merits as at the present time; could not see how any one could think it would be right to do away with the district school. He was followed by S. C. Patchel, who gave a statement of the present expense of our schools and an estimate of what the expense would be under the unit school system, and showed that the expense would be largely increased. Mr. Owen thought if put to the test the people would rise up and put it down. J. J. Patchel thought the present state of our schools nearly perfect. That we would soon be called on to oppose or adopt the system. Others spoke on the question but there were none in favor of doing away with the district school.

The club meets March 2 with Philip Kline.

Shlawassee Co. STELLA DAVENPORT,
Corresponding Secretary.
SALINE FARMERS' CLUB.

At the annual meeting of this club the following officers were elected: President, G. L. Hoyt; vice-president, H. D. Platt; second vice-president, Mrs. Chas. Miller; recording secretary, B. N. Smith; corresponding secretary, A. A. Wood; treasurer, A. G. Cobb. At the February meeting the following resolution was unanimously adopted: Resolved, That we, the members of the Saline Farmers' Club, do heartily endorse the efforts of the pure food commissioner of the State of Michigan in his endeavors to enforce the laws relating thereto.

Washtenaw Co. A. A. WOOD, Cor. Sec.
WESTERN WASHTENAW FARMERS' CLUB.

This club held its January meeting with Geo. W. Boynton. Our delegates to the State Association, Alvin Baldwin and George Chapman, gave a very interesting report of the proceedings of the convention, Mr. Baldwin giving a report of the first part of the meeting and Mr. Chapman the latter part. The report was accepted and a vote of thanks given the delegates. The question for the day was then taken up: "Would the postal savings bank system be a benefit to the people?" Some of the speakers thought that it would bring into circulation a large amount of money that is being hoarded by people that are afraid to trust their savings in the banks. Others thought that the government had

enough to attend to now, and that it would be an added expense. The February meeting will be held with Dennis Spaulding. We all feel well repaid for the efforts we have made in getting to the meetings and hope to improve during the next year.

Washtenaw Co. FRANK STORMS, Sec.
CLYDE AND GRANT FARMERS' CLUB.

The December session of the club was held at the residence of J. W. Gardner, and was largely attended. The county roads system was the subject of discussion, and while two or three favored the project and all wanted good roads the general sentiment of the club appeared unfavorable to the system as at present before the people. Arrangements were made for holding the January meeting in connection with the teachers of this part of the county, on request of Commissioner of Schools R. S. Campbell, as an "Educational Rally." This meeting proved to be a very enthusiastic and interesting affair. Papers were read as follows: How can the farmer best spend his time in winter; A model school board; The necessity for higher education among farmers; The school from an officer's standpoint; Free text books; School grounds and school houses; A paper on the report of committee of twelve on rural schools. All of these papers were well written, full of interest, true to subject and called out much discussion. Too much of the space of this department would be required to do justice in trying to give an analysis of them. Will only say that if the teachers on the program are a fair specimen of those of the whole county, the commissioner and the people of the county are to be congratulated, and that we may expect to see much accomplished in intellectual advancement among us during this school year. The February meeting will be held at the town hall in Grant on the 23d.

MRS. O. McKAY, Cor. Sec.
St. Clair Co.

SOUTH JACKSON FARMERS' CLUB.

The January meeting was held at the home of R. D. M. Edwards on the 29th inst. The house was crowded to its utmost capacity and much interest and enthusiasm manifested.

Mrs. Milton Reed opened the discussion upon "current events." She mentioned the recent cattle deal of Swift & Morris vs. Armour, and the Klondike. She does not advise us to join in the stampede for the latter region. It's a great country, but—

Delatus Goldsmith spoke briefly of the gold craze, and of the annexation of Hawaii, but considers the Cuban trouble the question of the day. "I wish Cuba were free; she ought to be free; but Cuba belongs to Spain, and, as we have no right to take away an individual's property, so we have no right to take away that of a nation." Mr. Pellet partially agrees with Mr. Goldsmith, but thinks it our duty to stop the atrocities now being committed there.

Mrs. Ford thinks we have a right to interfere in the cause of humanity anywhere and everywhere. Mrs. Hutchins is quite sure we have trouble enough of our own at home. We ought not to seek it with other nations. If Cuba cannot win her independence alone she should give it up. Her remarks astonished and grieved Horton Goldsmith. He is equally sure it will be a disgrace to the world to see Cuba now conquered by Spain. She is struggling for just what we fought for in the days of '76 and there ought not to be a person in the United States to object to lending her a helping hand. Mr. Neely doesn't think much of the Cubans. They are not on a par with the Americans and it's none of our business, anyhow.

Mr. Tygh: The very idea! And we claim to be a Christian, civilized nation and yet would not assist our helpless neighbor because she is not our equal!

Mr. Edwards was called for: We should be broad-minded and unselfish enough to place ourselves in the position of those in authority and look at the matter from their point of view. It is a difficult thing to do the only right one.

Prof. Harlow, county commissioner of schools, was present, and though expressing himself as unprepared to speak upon the subject, said a good word for Cuba.

The February meeting will be held at the home of Milton Reed. Mr. Pellet will speak upon "Stock Farming" and Mrs. Raven will have a paper upon "How shall the apple be divided between husband and wife?"

HELEN M. CARPENTER, Reporter.
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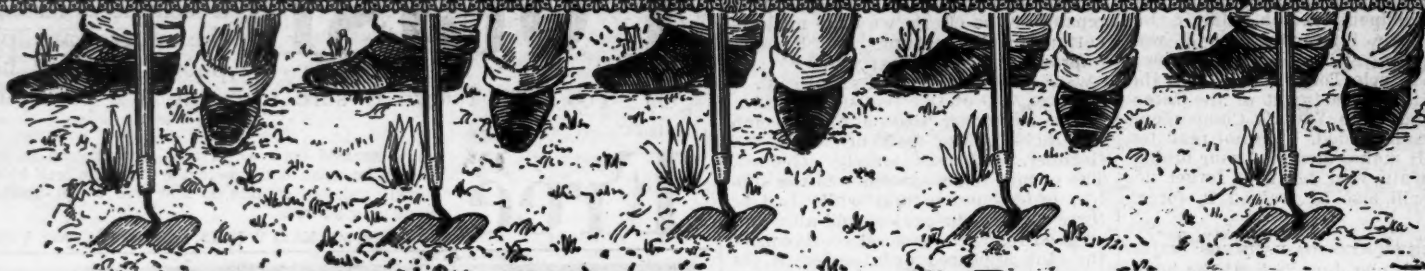
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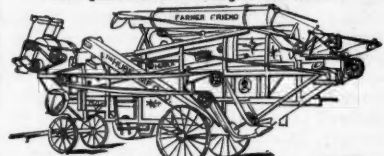
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